Refine Search

Search Results -

Term	Documents
(9 NOT 4).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	91
(L9 NOT L4).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	91

Database:
US Pre-Grant Publication Full-Text Database
US Patents Full-Text Database
US OCR Full-Text Database
EPO Abstracts Database
JPO Abstracts Database
Derwent World Patents Index
IBM Technical Disclosure Bulletins

Search: L10

Refine Search | Recall Text | Clear | Interrupt

Search History

DATE: Thursday, July 26, 2007 Purge Queries | Printable Copy | Create Case

Set Name side by side	Query	Hit Count	Set Name result set
DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; THES=ASSIGNEE; PLUR=YES; OP=AND			
L10	L9 not L4	91	L10
L9	L8 and ((cord adj blood) or (placental adj blood))	245	L9
L8	(MSC or (mesenchymal adj stem)) same (cardiomyocytes or cardiac or heart)	758	L8
L7	L6 not L4	4	L7
L6	L3 same (cardiomyocyte or (cardiac adj disease))	63	L6
L5	L4 and (CD13 and CD29)	3	L5
L4	L3 same (cardiac or heart)	163	L4
L3	((MSC) or (mesenchymal adj stem)) same ((cord adj blood) or (placental or placenta))	431	L3
L2	L1 and (cardiac adj muscle)	1	L2

L1	Wernet-Peter.in.	7	L1

END OF SEARCH HISTORY

PALM INTRANET

Day : Thursday
Date: 7/26/2007

Time: 10:23:16

Inventor Name Search

Enter the **first few letters** of the Inventor's Last Name.
Additionally, enter the **first few letters** of the Inventor's First name.

Last Name	First Name	
Wernet	Peter	Search

To go back use Back button on your browser toolbar.

Back to PALM | ASSIGNMENT | OASIS | Home page

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 Dialog level 05.19.02D
Last logoff:  22jul07 10:56:07
Logon file1 26jul07 16:34:27
          *** ANNOUNCEMENTS ***
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***BIOSIS Previews Archive (File 552)
***BIOSIS Previews 1969-2007 (File 525)
***Engineering Index Backfile (File 988)
***Trademarkscan - South Korea (File 655)

RESUMED UPDATING
***File 141, Reader's Guide Abstracts
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RELOADS COMPLETED
***File 156, ToxFile
***Files 154 & 155, MEDLINE
***File 5, BIOSIS Previews - archival data added
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Chemical Structure Searching now available in Prous Science Drug
Data Report (F452), Prous Science Drugs of the Future (F453),
IMS R&D Focus (F445/955), Pharmaprojects (F128/928), Beilstein Facts (F390), Derwent
(File 302).
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File   1:ERIC 1965-2007/May
       (c) format only 2007 Dialog

      Set  Items  Description
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Cost is in DialUnits
?

B 155, 5, 73
       26jul07 16:34:43 User259876 Session D1026.1
            $0.98    0.281 DialUnits File1
     $0.98  Estimated cost File1
     $0.06  INTERNET
     $1.04  Estimated cost this search
     $1.04  Estimated total session cost   0.281 DialUnits

SYSTEM:OS  - DIALOG OneSearch
  File 155:MEDLINE(R) 1950-2007/Jul 24
         (c) format only 2007 Dialog
  File   5:Biosis Previews(R) 1926-2007/Jul W4
         (c) 2007 The Thomson Corporation
 *File   5: BIOSIS has been enhanced with archival data. Please see
HELP NEWS 5 for information.
  File  73:EMBASE 1974-2007/Jul 19
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      Set  Items  Description
      ---  -----  -----------
?

S (MSC OR (MESENCHYMAL (W) STEM)) (S) (CARDIOMYOCYTE/ OR CARDIAC)
>>>Possible typing error near CARDIAC
?

S (MSC OR (MESENCHYMAL (W) STEM)) (S) (CARDIOMYOCYTE? OR CARDIAC)
            5043  MSC
           65247  MESENCHYMAL
          481355  STEM
           11030  MESENCHYMAL(W)STEM
           33757  CARDIOMYOCYTE?
          928981  CARDIAC
      S1     767  (MSC OR (MESENCHYMAL (W) STEM)) (S) (CARDIOMYOCYTE? OR
                  CARDIAC)
?

S S1 AND ((UMBILICAL (W) CORD) OR (CORD (W) BLOOD) OR PLACENTAL)
             767  S1
          111463  UMBILICAL
          411017  CORD
           42327  UMBILICAL(W)CORD
          411017  CORD
         7026077  BLOOD
           49707  CORD(W)BLOOD
          118054  PLACENTAL
      S2      33  S1 AND ((UMBILICAL (W) CORD) OR (CORD (W) BLOOD) OR
                  PLACENTAL)
?

RD
      S3      17  RD  (unique items)
?

S S3 NOT PY>2004
              17  S3
         4533413  PY>2004
      S4       7  S3 NOT PY>2004
?

T S4/3,K/ALL

  4/3,K/1     (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
(c) format only 2007 Dialog. All rts. reserv.

15220974   PMID: 15579650
 Mesenchymal stem cells in the Wharton's jelly of the human umbilical
 cord.
  Wang Hwai-Shi; Hung Shih-Chieh; Peng Shu-Tine; Huang Chun-Chieh; Wei
Hung-Mu; Guo Yi-Jhih; Fu Yu-Show; Lai Mei-Chun; Chen Chin-Chang
  Institute of Anatomy and Cell Biology, Yang-Ming University, Taipei,
Taiwan, Republic of China. hswang@ym.edu.tw
  Stem cells (Dayton, Ohio) (United States)    2004, 22 (7) p1330-7,
ISSN 1066-5099--Print   Journal Code: 9304532
  Publishing Model Print
```

Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

Mesenchymal stem cells in the Wharton's jelly of the human umbilical cord .

The Wharton's jelly of the umbilical cord contains mucoid connective tissue and fibroblast-like cells. Using flow cytometric analysis, we found that mesenchymal cells isolated from the umbilical cord express matrix receptors (CD44, CD105) and integrin markers (CD29, CD51) but not hematopoietic lineage markers...

... cell markers (SH2, SH3). We therefore investigated the potential of these cells to differentiate into cardiomyocytes by treating them with 5-azacytidine or by culturing them in cardiomyocyte -conditioned medium and found that both sets of conditions resulted in the expression of cardiomyocyte markers, namely N-cadherin and cardiac troponin I. We also showed that these cells have multilineage potential and that, under suitable...

...and osteogenic lineages. These findings may have a significant impact on studies of early human cardiac differentiation, functional genomics, pharmacological testing, cell therapy, and tissue engineering by helping to eliminate worrying...

Descriptors: *Mesenchymal Stem Cells--cytology--CY; * Umbilical Cord --cytology--CY

4/3,K/2 (Item 2 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

14560400 PMID: 14579923
Human cord blood-derived mesenchymal stem cells home and survive in the marrow of immunodeficient mice after systemic infusion.

Erices Alejandro A; Allers Carolina I; Conget Paulette A; Rojas Cecilia V ; Minguell Jose J
Programa Terapias Genicas y Celulares, INTA, Universidad de Chile, Santiago, Chile. aerices@uec.inta.uchile.cl

Cell transplantation (United States) 2003, 12 (6) p555-61, ISSN 0963-6897--Print Journal Code: 9208854
Publishing Model Print
Document type: Journal Article; Research Support, Non-U.S. Gov't
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

Human cord blood -derived mesenchymal stem cells home and survive in the marrow of immunodeficient mice after systemic....

Bone marrow is the residence site of mesenchymal stem cells (MSC), which upon commitment and maturation develop into several mesenchymal phenotypes. Recently, we have described the presence of MSC in human cord blood (cbMSC) and informed that their properties are the same as those for MSC obtained from adult bone marrow. In this study we have investigated the capability of transplanted...

... engrafted cells, because human DNA was also detected in cells of other recipient tissues, like cardiac muscle, teeth, and spleen.

Descriptors: *Bone Marrow--surgery--SU; * Cord Blood Stem Cell

Transplantation--methods--MT; *Fetal Blood--cytology--CY; *Graft Survival --immunology--IM; *Immunologic Deficiency...
...; Cell Differentiation--immunology--IM; Cell Lineage--immunology--IM; Cell Size--immunology--IM; Chemotaxis--immunology--IM; Cord Blood Stem Cell Transplantation--trends--TD; DNA--metabolism--ME; Disease Models, Animal; Globins--genetics--GE; Humans...

4/3,K/3 (Item 3 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

14497810 PMID: 12973935
Induced differentiation of human cord blood mesenchymal stem/progenitor cells into cardiomyocyte-like cells in vitro.
Cheng Fanjun; Zou Ping; Yang Handong; Yu Zhengtong; Zhong Zhaodong
Institute of Hematology, Xiehe Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan 430022.
Journal of Huazhong University of Science and Technology. Medical sciences = Hua zhong ke ji da xue xue bao. Yi xue Ying De wen ban = Huazhong keji daxue xuebao. Yixue Yingdewen ban (China) 2003, 23 (2) p154-7, ISSN 1672-0733--Print Journal Code: 101169627
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

Induced differentiation of human cord blood mesenchymal stem/progenitor cells into cardiomyocyte -like cells in vitro.
The feasibility of using cord blood mesenchymal stem/progenitor cells (CB-MSPCs) to regenerate cardiomyocytes and the optimal inducing conditions were investigated. The CB mononuclear cells were cultured in low ...

... DMEM medium to produce an adherent layer. After expansion, the adherent cells were added into cardiomyocyte inducing medium supplemented with 5-azacytidine. Cardiogenic specific contractile protein troponin T staining was performed to identify the cardiomyocyte -like cells. The results showed that the frequency of CB-MSPCs clones in CB mononuclear...

...was achieved within 20 sub-cultivation. After cardiogenic induction, 70% CB-MSPCs was differentiated into cardiomyocyte -like cells. It was indicated that low serum culture could expand CB-MSPCs extensively and the expanded CB-MSPCs could be induced to differentiate into cardiomyocyte -like cells in high efficiency.

4/3,K/4 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

18620420 BIOSIS NO.: 200510314920
Infarcted myocardial protein and oscillating pressure induce differentiation of mesenchymal stem cells into cardiomyocytes without cell-to-cell interaction
AUTHOR: Chang Sung-A (Reprint); Zhang Shu-Ying; Cho Hyun-Jai; Kang Hyun-Jae ; Yang Sung-Eun; Yang Yoon-Sun; Oh Wonil; Park Jin-Shik; Choi Dong-Ju; Kim Myung-A; Park Young-Bae; Kim Hyo-Soo
AUTHOR ADDRESS: Seoul Natl Univ Hosp, Seoul 110744, South Korea**South

Korea
JOURNAL: Circulation 110 (17, Suppl. S): p280 OCT 26 2004 2004
CONFERENCE/MEETING: 77th Scientific Meeting of the
American-Heart-Association New Orleans, LA, USA November 07 -10, 2004;
20041107
SPONSOR: Amer Heart Assoc
ISSN: 0009-7322
DOCUMENT TYPE: Meeting; Meeting Abstract
RECORD TYPE: Abstract
LANGUAGE: English

Infarcted myocardial protein and oscillating pressure induce differentiation of mesenchymal stem cells into cardiomyocytes without cell-to-cell interaction

ABSTRACT: Background- Mesenchymal stem cells (MSCs) were reported to differentiate into cardiomyocytes (CMCs) in vivo when injected to myocardium as well as in vitro under condition of...

...MSCs interaction could differentiate MSCs into CMCs. Methods and Results- We cultured MSCs from human cord blood in oscillating pressure chamber (150 to 10 mmHg, 150 cycles /min) with mixture of rat...

...3] in pressure chamber or not. MSCs cultured with normal serum did not express any cardiac marker, however, those cultured with normal MP showed T-T, GATA4, and ANP very weakly...

...there was additional expression of beta-MHC and Cx43. With infarcted MP, MSCs expressed all cardiac markers except a-MHC, to which condition the addition of pressure chamber induced all cardiac markers strongly. MSCs expressed Cx43 and T-T in immunostaining as well. Conclusions- Human MSCs expressed cardiac markers when cultured with infarcted MP in pressure chamber, which suggests that infarct-related biochemical...

...cell-to-cell interaction.[GRAPHICS]ir gene expression and have potential to differentiate into a cardiac phenotype in the cardiac microenvironment. Overexpression of GATA-4 can increase the transdifferentiation capacity of BMSC into myocardial phenotypes. This study suggests that GATA-4 is important transcription factor in committing BMSC into cardiac lineage.

4/3,K/5 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

18575802 BIOSIS NO.: 200510270302
SDF-1-CXCR4 and HGF-c-met axes regulate mobilization/recruitment to injured tissue of human mesenchymal stem cells.
AUTHOR: Son Bo-Ra (Reprint); Zhao Dongling; Marquez-Curtis Leah A;
Shirvaikar Neeta; Ratajczak Mariusz Z; Janowska-Wieczorek Anna
AUTHOR ADDRESS: Univ Alberta, Edmonton, AB, Canada**Canada
JOURNAL: Blood 104 (11, Part 1): p642A NOV 16 2004 2004
CONFERENCE/MEETING: 46th Annual Meeting of the
American-Society-of-Hematology San Diego, CA, USA December 04 -07, 2004;
20041204
SPONSOR: Amer Soc Hematol
ISSN: 0006-4971
DOCUMENT TYPE: Meeting; Meeting Poster
RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: Human mesenchymal stem cells (MSC) have been shown to egress from the bone marrow (BM), circulate in peripheral blood (PB...

...18:29) and in this study we examined whether these factors mediate the migration of MSC . We investigated (i) the expression in MSC of CXCR4 andc- met, the cognate receptors of SDF-1 and HGF, (ii) whether they...

...passages (using a chemotaxis assay across fibronectinand the reconstituted basement membrane Matrigel), and (iii) whether MSC express matrix metalloproteinases (MMPs) known to facilitate mobilization and homing of stem cells. MSC were derived from human bone marrow (BM) or cord blood (CB) and maintained for up to 18 passages (in IMDM and 10-20% FCS) with monitoring of markers for cardiac (Nkx2.5/Csx, GATA-4 and MEF2-C), skeletal muscle (Myo-D and myogenin) and endothelial cells (VE-cadherin and VEGFR-2). We found that (i) CB and BM MSC strongly express CXCR4 and c-met transcripts for up to 15 passages, (ii) these receptors are functional as the MSC cells were chemotactic and chemoinvasive (across Matrigel) towards gradients of SDF-1 (100 ng/mL)or HGF (40 ng/ mL), and (iii) CB and BM MSC express MMP-2 mRNA and secrete both latent and active forms of MMP-2. Moreover, we found that CB and BM MSC expressed mRNA for all three cardiac markers and the endothelial marker VE-cadherin, indicating their potential for heart regeneration. In conclusion...

...indicate that the SDF-1-CXCR4 and HGF-c-met axes are important signalingpathways in MSC mobilization and their trafficking in PB, and could be involved in recruitment of MSC to damaged tissues (e.g., myocardium).
DESCRIPTORS:
...ORGANISMS: PARTS ETC: cord blood --

4/3,K/6 (Item 3 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

17379950 BIOSIS NO.: 200300336693
Human Adipose-Derived Mesenchymal and Adherent Cord Blood Stem Cell Trafficking Studies Are Facilitated by Novel Xenotransplant Models.
AUTHOR: Meyerrose Todd E (Reprint); Hofling A Alex (Reprint); Ugarte Daniel De (Reprint); Rao Manoj (Reprint); Cordonnier Taylor (Reprint); Rosova Ivana (Reprint); Eagon J Chris (Reprint); Creer Michael (Reprint); Johnson Corey (Reprint); Herrbrich Phillip (Reprint); Hedrick Marc A (Reprint); Sands Mark S (Reprint); Nolta Jan A (Reprint)
AUTHOR ADDRESS: Department of Internal Medicine, Division of Oncology, Washington University School of Medicine, St. Louis, MO, USA**USA
JOURNAL: Blood 100 (11): pAbstract No. 1995 November 16, 2002 2002
MEDIUM: print
CONFERENCE/MEETING: 44th Annual Meeting of the American Society of Hematology Philadelphia, PA, USA December 06-10, 2002; 20021206
SPONSOR: American Society of Hematology
ISSN: 0006-4971
DOCUMENT TYPE: Meeting; Meeting Poster; Meeting Abstract
RECORD TYPE: Abstract
LANGUAGE: English

Human Adipose-Derived Mesenchymal and Adherent Cord Blood Stem Cell Trafficking Studies Are Facilitated by Novel Xenotransplant Models.

...ABSTRACT: investigated the potential of human adipose-derived mesenchymal stem cells (AMSC) and rapidly growing CD45- cord blood adherent cells (adCB) to traffic into various tissue compartments using two novel murine xenotransplant models...

...up to 90 days post-transplantation in the liver, lung, spleen, intestine, kidney, bladder, fat, cardiac and skeletal muscle, as well as in the right and left hemispheres of the brain...

...had received the same conditioning regimen. In contrast to AMSC, adCB and bone marrow-derived MSC have not yet been observed trafficking to the brains of immune deficient mice that received...
DESCRIPTORS:
...ORGANISMS: PARTS ETC: adherent cord blood stem cell...

4/3,K/7 (Item 4 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

16605492 BIOSIS NO.: 200200199003
Detection of unrestricted multipotential stem cells in human cord blood
AUTHOR: Wernet Peter (Reprint); Fischer Johannes (Reprint); Knipper Andreas ; Degistrici Oezer; Koegler Gesine (Reprint)
AUTHOR ADDRESS: Institute for Transplantation Diagnostic and Cell Therapeutics, University Medical Center, Duesseldorf, Germany**Germany
JOURNAL: Blood 98 (11 Part 1): p550a November 16, 2001 2001
MEDIUM: print
CONFERENCE/MEETING: 43rd Annual Meeting of the American Society of Hematology, Part 1 Orlando, Florida, USA December 07-11, 2001; 20011207
SPONSOR: American Society of Hematology
ISSN: 0006-4971
DOCUMENT TYPE: Meeting; Meeting Abstract; Meeting Poster
RECORD TYPE: Abstract
LANGUAGE: English

Detection of unrestricted multipotential stem cells in human cord blood

...ABSTRACT: cells were obtained spontaneously after seeding freshly isolated mononuclear cells from fresh and frozen human cord blood into cultures with HS 100 medium. Amplification of these cells over many passages (up to...

...on a clonal level, they demonstrate the presence of very early multipotential stem cells in cord blood which are much more potent in their differentiation plasticity as the so called mesenchymal stem cells observed in human bone marrow. These unrestricted CB stem cells appear to be excellent...
DESCRIPTORS:
...ORGANISMS: PARTS ETC: cord blood --
?

Set	Items	Description
S1	767	(MSC OR (MESENCHYMAL (W) STEM)) (S) (CARDIOMYOCYTE? OR CARDIAC)
S2	33	S1 AND ((UMBILICAL (W) CORD) OR (CORD (W) BLOOD) OR PLACENTAL)
S3	17	RD (unique items)

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S4          7   S3 NOT PY>2004
?

S S1 AND (PATIENT OR TREATMENT OR THERAPY)
            767  S1
        3952022  PATIENT
        5687464  TREATMENT
        6379434  THERAPY
      S5    473  S1 AND (PATIENT OR TREATMENT OR THERAPY)
?

S S5 NOT PY>2004
            473  S5
        4533413  PY>2004
      S6    140  S5 NOT PY>2004
?

RD
      S7     80  RD  (unique items)
?


Set     Items   Description
S1        767   (MSC OR (MESENCHYMAL (W) STEM)) (S) (CARDIOMYOCYTE? OR CAR-
            DIAC)
S2         33   S1 AND ((UMBILICAL (W) CORD) OR (CORD (W) BLOOD) OR PLACEN-
            TAL)
S3         17   RD  (unique items)
S4          7   S3 NOT PY>2004
S5        473   S1 AND (PATIENT OR TREATMENT OR THERAPY)
S6        140   S5 NOT PY>2004
S7         80   RD  (unique items)
?

S S7 AND (HUMAN OR DIFFERENTIATE OR DIFFERNTIATION)
             80  S7
       15372288  HUMAN
         142552  DIFFERENTIATE
             81  DIFFERNTIATION
     S8      48  S7 AND (HUMAN OR DIFFERENTIATE OR DIFFERNTIATION)
?


Set     Items   Description
S1        767   (MSC OR (MESENCHYMAL (W) STEM)) (S) (CARDIOMYOCYTE? OR CAR-
            DIAC)
S2         33   S1 AND ((UMBILICAL (W) CORD) OR (CORD (W) BLOOD) OR PLACEN-
            TAL)
S3         17   RD  (unique items)
S4          7   S3 NOT PY>2004
S5        473   S1 AND (PATIENT OR TREATMENT OR THERAPY)
S6        140   S5 NOT PY>2004
S7         80   RD  (unique items)
S8         48   S7 AND (HUMAN OR DIFFERENTIATE OR DIFFERNTIATION)
?

S S8 NOT S4
             48  S8
              7  S4
      S9     45  S8 NOT S4
```

?

T S9/3,K/1-10

9/3,K/1 (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

15276808 PMID: 15747834
[Mesenchymal stem cell transplantation for myocardial reparation of rat experimental heart failure]
Terapiia eksterimental'nogo infarkta miokarda u krys s pomoshch'iu transplantatsii singennykh mezenkhimnykh stvolovykh kletok.
Krugliakov P V; Sokolova I B; Amineva Kh K; Nekrasova N N; Viide S V; Cherednichenko N N; Zaritskii A Iu; Semernin E N; Kisliakova T V; Polyntsev D G
Tsitologiia (Russia) 2004, 46 (12) p1043-54, ISSN 0041-3771--Print
Journal Code: 0417363
Publishing Model Print
Document type: Comparative Study; English Abstract; Journal Article
Languages: RUSSIAN
Main Citation Owner: NLM
Record type: MEDLINE; Completed

Mesenchymal stem cells (MSC) are resident pluripotent cells of bone marrow stroma. MSC have the ability to differentiate into osteoblasts, chondroblasts and adipocytes, neurons, glia and also into cardiomyocytes . The problem of MSC use in cell therapy of various diseases and in myocardial infarction therapy is widely discussed at present. The experiments were carried out on the inbred line Wistar--Kyoto rats. Myocardial experimental infarction (EI) was induced by left descending coronary artery ligation. MSC were isolated from bone marrow, cultivated in vitro and injected into the tail vein on...

... the structure of injured myocardium in experimental group significantly differed from that in control group. MSC transplantation led to inflammatory process acceleration and to increased angiogenesis in the damaged myocardium; also, live cardiomyocyte layers were detected in the scar. As a result, ventricular dilatation and overload of the...
Descriptors: *Mesenchymal Stem Cell Transplantation; *Myocardial Infarction-- therapy --TH; *Myocardium--pathology--PA

9/3,K/2 (Item 2 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

15196141 PMID: 15284059
Intravenous administration of mesenchymal stem cells improves cardiac function in rats with acute myocardial infarction through angiogenesis and myogenesis.
Nagaya Noritoshi; Fujii Takafumi; Iwase Takashi; Ohgushi Hajime; Itoh Takefumi; Uematsu Masaaki; Yamagishi Masakazu; Mori Hidezo; Kangawa Kenji; Kitamura Soichiro
Dept. of Regenerative Medicine and Tissue Engineering, National Cardiovascular Center Research Institute, 5-7-1 Fujishirodai, Suita, Osaka 565-8565, Japan. nnagaya@ri.ncvc.go.jp
American journal of physiology. Heart and circulatory physiology (United States) Dec 2004, 287 (6) pH2670-6, ISSN 0363-6135--Print
Journal Code: 100901228

Publishing Model Print-Electronic
Document type: Journal Article; Research Support, Non-U.S. Gov't
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

Intravenous administration of mesenchymal stem cells improves cardiac function in rats with acute myocardial infarction through angiogenesis and myogenesis.

Mesenchymal stem cells (MSCs) are pluripotent cells that differentiate into a variety of cells, including cardiomyocytes and endothelial cells. However, little information is available regarding the therapeutic potency of systemically delivered...

... myocardial infarction. Accordingly, we investigated whether intravenously transplanted MSCs induce angiogenesis and myogenesis and improve cardiac function in rats with acute myocardial infarction. MSCs were isolated from bone marrow aspirates of...

...and expanded ex vivo. At 3 h after coronary ligation, 5 x 10(6) MSCs (MSC group, n=12) or vehicle (control group, n=12) was intravenously administered to Lewis rats...

... attracted to the infarcted, but not the noninfarcted, myocardium. The engrafted MSCs were positive for cardiac markers: desmin, cardiac troponin T, and connexin43. On the other hand, some of the transplanted MSCs were positive for von Willebrand factor and formed vascular structures. Capillary density was markedly increased after MSC transplantation. Cardiac infarct size was significantly smaller in the MSC than in the control group (24 +/- 2 vs. 33 +/- 2%, P <0.05). MSC transplantation decreased left ventricular end-diastolic pressure and increased left ventricular maximum dP/dt (both P <0.05 vs. control). These results suggest that intravenous administration of MSCs improves cardiac function after acute myocardial infarction through enhancement of angiogenesis and myogenesis in the ischemic myocardium.

Descriptors: *Myocardial Infarction-- therapy --TH; *Myocytes, Cardiac --cytology--CY; *Neovascularization, Physiologic; *Stem Cell Transplantation

9/3,K/3 (Item 3 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

15130210 PMID: 15474453
Ex vivo differentiation of human adult bone marrow stem cells into cardiomyocyte-like cells.

Shim Winston S N; Jiang Shujia; Wong Philip; Tan Jack; Chua Yeow Leng; Tan Yong Seng; Sin Yoong Kong; Lim Chong Hee; Chua Terrance; Teh Ming; Liu Te Chih; Sim Eugene

Research and Development Unit, National Heart Centre, Mistri Wing, 17 Third Hospital Ave, Singapore 168752, Singapore. Wiston SHIM SN@nhc.com.sg

Biochemical and biophysical research communications (United States) Nov 12 2004, 324 (2) p481-8, ISSN 0006-291X--Print Journal Code: 0372516
Publishing Model Print
Document type: Journal Article; Research Support, Non-U.S. Gov't
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

Ex vivo differentiation of human adult bone marrow stem cells into cardiomyocyte-like cells.

Bone marrow mesenchymal stem cells have been shown to transdifferentiate into cardiomyocytes after 5-azacytidine treatment or co-culturing with rodent cardiomyocytes . We investigate if adult human bone marrow stem cells can be differentiated ex vivo into cardiomyocyte -like cells (CLCs) independent of cytotoxic agents or co-culturing technique. Sternal bone marrow was collected from 16 patients undergoing coronary artery bypass surgery. Mesenchymal stem cells were differentiated in a cardiomyogenic differentiation medium containing insulin, dexamethasone, and ascorbic acid. Differentiation towards CLCs was determined by induced expression of cardiomyocyte -specific proteins. Differentiated CLCs expressed multiple structural and contractile proteins that are associated with cardiomyocytes . Thin filament associated myofibrillar proteins were detected early in the cells, with cardiac troponin I, sarcomeric tropomyosin, and cardiac titin among the first expressed. Some CLCs were found to develop into a nascent cardiomyocyte phenotype with cross-striated myofibrils characterized by alpha-actinin-positive Z bands after 4-5...

9/3,K/4 (Item 4 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

15083436 PMID: 15362201

Allograftic bone marrow-derived mesenchymal stem cells transplanted into heart infarcted model of rabbit to renovate infarcted heart.

Wang Jian-an; Li Chang-ling; Fan You-qi; He Hong; Sun Yong

Department of Cardiology, Sir Run Run Shaw Hospital, School of Medicine, Zhejiang University, Hangzhou 310016, China.

Journal of Zhejiang University. Science (China) Oct 2004, 5 (10) p1279-85, ISSN 1009-3095--Print Journal Code: 100954270

Publishing Model Print

Document type: Comparative Study; Journal Article; Research Support, Non-U.S. Gov't

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

... MATERIALS AND METHODS: Rabbits were divided into 3 groups, heart infarcted model with MSCs transplanted treatment (MSCs group, n = 12), heart infarcted model with PBS injection (control group, n = 20), sham...

... MI, MI region and its periphery, and even farther away; part of them differentiated into cardiomyocytes ; in 7 cases (70%), the transplanted cells participated in the formation of blood vessel tissue in the MI region. CONCLUSION: Transplanted allograftic MSCs can survive and differentiate into cardiomyocytes , form the blood vessels in the MI region. MSCs transplantation could improve the heart function...

; Animals; Cell Differentiation; Cell Survival; Rabbits; Survival Analysis; Transplantation, Homologous--methods--MT; Treatment Outcome

9/3,K/5 (Item 5 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

14999195 PMID: 15259984

[Cardiomyocyte-like differentiation of human bone marrow mesenchymal stem

cells after exposure of 5-azacytidine in vitro]
Cao Feng; Niu Li Li; Meng Ling; Zhao Lian Xu; Zheng Ming; Yue Wen; Bai Ci Xian; Jia Guo Liang; Pei Xue Tao
Beijing Institute of Transfusion medicine, Beijing 100850, China.
Shi yan sheng wu xue bao (China) Apr 2004, 37 (2) p118-24, ISSN 0001-5334--Print Journal Code: 0413570
Publishing Model Print
Document type: English Abstract; Journal Article; Research Support, Non-U.S. Gov't
Languages: CHINESE
Main Citation Owner: NLM
Record type: MEDLINE; Completed

[Cardiomyocyte-like differentiation of human bone marrow mesenchymal stem cells after exposure of 5-azacytidine in vitro]
To investigate the potential of adult mesenchymal stem cells (hMSCs) derived from human bone marrow to undergo cardiomyogenic differentiation after exposure of 5-azacytidine in vitro. A small bone marrow aspirate was taken from the iliac crest of human volunteers, and hMSCs were isolated by 1.073 g/mL Percoll and cultured in the...

... for cellular differentiation. We examined respectively with immunohischemistry at 21 days of inducement on desmin, cardiac -specific cardiac troponin I (cTnI), GATA4 & connexin43. The ultrastructures of induced cells were examined by transmission electron...

...for CD34 and CD45. 20%-30% cells grown after 5, 10 microl/L 5-aza treatment connected with adjoining cells and coalesced into myotube structures after 14 days. After 21 days...

... of desmin, GATA4, cTnI and connexin43 in 5, 10 micromol/L showed positive, but no cardiac specific protein were found in neither 3 micromol/L nor in control group. The ratio...

...formed. The results indicated that purified hMSCs from adult bone marrow can be differentiated into cardiac -like muscle cells with 5-aza inducement in vitro and the differentiation is in line...

9/3,K/6 (Item 6 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

14985818 PMID: 15242981
Mesenchymal stem cells and their potential as cardiac therapeutics.
Pittenger Mark F; Martin Bradley J
Osiris Therapeutics, Inc., 2001 Aliceanna St, Baltimore, MD 21231, USA. mpittenger@osiristx.com
Circulation research (United States) Jul 9 2004, 95 (1) p9-20, ISSN 1524-4571--Electronic Journal Code: 0047103
Publishing Model Print
Document type: Journal Article; Review
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

Mesenchymal stem cells and their potential as cardiac therapeutics.
... that can be isolated, expanded in culture, and characterized in vitro and in vivo. MSCs differentiate readily into chondrocytes, adipocytes, osteocytes, and they can support hematopoietic stem cells or embryonic stem

...

... suggests MSCs can also express phenotypic characteristics of endothelial, neural, smooth muscle, skeletal myoblasts, and cardiac myocyte cells. When introduced into the infarcted heart, MSCs prevent deleterious remodeling and improve recovery, although further understanding of MSC differentiation in the cardiac scar tissue is still needed. MSCs have been injected directly into the infarct, or they...

... suggests their potential "off the shelf" therapeutic use for multiple recipients. Clinical use of cultured human MSCs (hMSCs) has begun for cancer patients, and recipients have received autologous or allogeneic MSCs ...

Descriptors: *Mesenchymal Stem Cell Transplantation; *Mesenchymal Stem Cells--cytology--CY; *Myocardial Infarction-- therapy --TH...; Stem Cells --immunology--IM; Mesenchymal Stem Cells--physiology--PH; Mice; Myocardial Infarction--pathology--PA; Neoplasms-- therapy --TH; Neovascularization, Physiologic; Rats; Transplantation, Homologous

9/3,K/7 (Item 7 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

14851188 PMID: 14988226
Human mesenchymal stem cells as a gene delivery system to create cardiac pacemakers.
Potapova Irina; Plotnikov Alexei; Lu Zhongju; Danilo Peter; Valiunas Virginijus; Qu Jihong; Doronin Sergey; Zuckerman Joan; Shlapakova Iryna N; Gao Junyuan; Pan Zongming; Herron Alan J; Robinson Richard B; Brink Peter R ; Rosen Michael R; Cohen Ira S
Institute of Molecular Cardiology, Departments of Physiology and Biophysics, SUNY Stony Brook, Stony Brook, NY, USA.
Circulation research (United States) Apr 16 2004, 94 (7) p952-9, ISSN 1524-4571--Electronic Journal Code: 0047103
Contract/Grant No.: GM-55263; GM; NIGMS; HL-20558; HL; NHLBI; HL-28958; HL; NHLBI; HL-67101; HL; NHLBI
Publishing Model Print-Electronic
Document type: Journal Article; Research Support, U.S. Gov't, P.H.S.
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

Human mesenchymal stem cells as a gene delivery system to create cardiac pacemakers.
We tested the ability of human mesenchymal stem cells (hMSCs) to deliver a biological pacemaker to the heart. hMSCs transfected with a cardiac pacemaker gene, mHCN2, by electroporation expressed high levels of Cs+-sensitive current (31.1+/-3...

... express functional HCN2 channels in vitro and in vivo, mimicking overexpression of HCN2 genes in cardiac myocytes, and represent a novel delivery system for pacemaker genes into the heart or other...
Descriptors: *Gene Therapy ; *Ion Channels--physiology--PH; *Mesenchymal Stem Cell Transplantation; *Mesenchymal Stem Cells--cytology--CY; *Muscle Proteins...

9/3,K/8 (Item 8 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

14814621 PMID: 15041543
[Differentiation of rabbit bone marrow mesenchymal stem cells into myogenic cells in vitro and expression of vascular endothelial growth factor gene after transfection]
Sheng Xiao-gang; Feng Jian-zhang; Wu Shulin; Jin Li-jun; Yu Xi-yong; Zhang Bin
Department of Cardiology, Guangdong Provincial Cardiovascular Institute, Guangzhou 510100, China. shengxiaogang1@sina.com.cn
Di 1 jun yi da xue xue bao = Academic journal of the first medical college of PLA (China) Mar 2004, 24 (3) p290-4, ISSN 1000-2588--Print Journal Code: 9426110
Publishing Model Print
Document type: English Abstract; Journal Article; Research Support, Non-U.S. Gov't
Languages: CHINESE
Main Citation Owner: NLM
Record type: MEDLINE; Completed

... induced differentiation of the cells into myogenic cells was demonstrated by their positive staining for cardiac troponin I (cTnI). Northern blotting showed that the expression of VEGF 165 mRNA was much...
... pg/ml and 125pg/ml, respectively, P<0.01). CONCLUSION: MSCs can be induced to differentiate into myogenic cells in vitro and express VEGF after VEGF gene transfection, and this success may provided a basis for combining MSC transplantation with gene therapy for regeneration of the damaged myocardial cells.

9/3,K/9 (Item 9 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

14777085 PMID: 14990157
[Migration and differentiation of exogenous rat mesenchymal stem cells engrafted into normal and injured hearts of rats]
Niu Li-li; Zheng Min; Cao Feng; Xie Chao; Li Hai-min; Yue Wen; Gao Yan-hong; Bai Ci-xian; Zhu Shan-jun; Pei Xue-tao
Institute of Transfusion, Beijing Academy of Military Medicine, Beijing 100850, China.
Zhonghua yi xue za zhi (China) Jan 2 2004, 84 (1) p38-42, ISSN 0376-2491--Print Journal Code: 7511141
Publishing Model Print
Document type: Comparative Study; English Abstract; Journal Article; Research Support, Non-U.S. Gov't
Languages: CHINESE
Main Citation Owner: NLM
Record type: MEDLINE; Completed

... differentiation of grafted rat mesenchymal stem cells (rMSC) in host myocardium and the feasibility of treatment of myocardial infarction by exogenous adult stem cells. METHODS: rMSC were isolated from the femurs...

... rMSC were injected into the peri-infarct tissues), normal heart + rMSC transplantation group (normal heart + MSC group, n = 10, DAPI-labeled rMSC were injected into the corresponding myocardium), and mono-nuclear...

... 4 and connexin-43. RESULTS: No lymphocyte proliferation and immonologic rejection were seen in the cardiac tissues of the rats implanted with

rMSC. DAPI-labeled rMSC with blue nuclei were distributed...

... myocardium of the AMI + rMSC group, ovoid in shape and arranged in parallel with the cardiac muscle fibers, and were distributed sporadically like islands in the myocardium of the normal heart + rMSC group, irregular in shape and not arranged in parallel with the cardiac muscle fibers. No blue nucleus was seen in the cardiac tissues of the hearts implanted with DAPI-labeled mononuclear cells. Troponin and GATA4 were positive immunohistochemically in the implanted rMSC with blue nuclei and the host cardiac muscle cells of the AMI group and AMI + rMSC group, however, were negative in the implanted rMSC with blue nuclei and normal cardiac muscle cells of the normal heart + rMSC group. CONCLUSION: Purified rMSC are immunologically tolerable and can be used as donor cells for exogenous cells therapy . Capable of surviving and homing in both in normal and injured hearts, exogenous rMSC migrate and differentiate into cardiac muscle cell-like cells in myocardium with infarction, however, not in normal heart.

...; Transport Proteins--analysis--AN; Mesenchymal Stem Cells--chemistry --CH;. Myocardial Infarction--metabolism--ME; Myocardial Infarction--therapy --TH; Myocardium--chemistry--CH; Random Allocation; Rats; Rats, Wistar; Troponin--analysis--AN

9/3,K/10 (Item 10 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

14745216 PMID: 14578475
Electrophysiological properties of human mesenchymal stem cells.
Heubach Jurgen F; Graf Eva M; Leutheuser Judith; Bock Manja; Balana Bartosz; Zahanich Ihor; Christ Torsten; Boxberger Sabine; Wettwer Erich; Ravens Ursula
Institut fur Pharmakologie und Toxikologie, Medizinische Fakultat Carl Gustav Carus der TU Dresden, Fetscherstrasse 74, D-01307 Dresden, Germany.
Journal of physiology (England) Feb 1 2004, 554 (Pt 3) p659-72, ISSN 0022-3751--Print Journal Code: 0266262
Publishing Model Print-Electronic; Comment in J Physiol. 2004 Feb 1;554(Pt 3) 592; Comment in PMID 14634205
Document type: Journal Article; Research Support, Non-U.S. Gov't
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

Electrophysiological properties of human mesenchymal stem cells.
Human mesenchymal stem cells (hMSC) have gained considerable interest due to their potential use for cell replacement therapy and tissue engineering. One strategy is to differentiate these bone marrow stem cells in vitro into cardiomyocytes prior to implantation. In this context ion channels can be important functional markers of cardiac differentiation. At present there is little information about the electrophysiological behaviour of the undifferentiated hMSC...
Chemical Name: Calcium Channels, L-Type; Ion Channels; KCND2 protein, human ; KCNMA1 protein, human ; Large-Conductance Calcium-Activated Potassium Channel alpha Subunits; Large-Conductance Calcium-Activated Potassium Channels; Potassium...
?

Set	Items	Description
S1	767	(MSC OR (MESENCHYMAL (W) STEM)) (S) (CARDIOMYOCYTE? OR CAR-

```
            DIAC)
S2          33   S1 AND ((UMBILICAL (W) CORD) OR (CORD (W) BLOOD) OR PLACEN-
            TAL)
S3          17   RD  (unique items)
S4           7   S3 NOT PY>2004
S5         473   S1 AND (PATIENT OR TREATMENT OR THERAPY)
S6         140   S5 NOT PY>2004
S7          80   RD  (unique items)
S8          48   S7 AND (HUMAN OR DIFFERENTIATE OR DIFFERNTIATION)
S9          45   S8 NOT S4
?

T S9/3,K/11-45

  9/3,K/11     (Item 11 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
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14691845   PMID: 15030272
 Cardiovascular disease: potential impact of stem cell therapy.
  Amrani David L; Port Steven
  Baxter Healthcare, RLT-12 Route 120 and Wilson Rd, Round Lake, IL 60073,
USA. david amrani@baxter.com
  Expert review of cardiovascular therapy (England)  Sep 2003,  1  (3)
 p453-61,  ISSN 1477-9072--Print  Journal Code: 101182328
  Publishing Model Print
  Document type: Journal Article; Review
  Languages: ENGLISH
  Main Citation Owner: NLM
  Record type: MEDLINE; Completed

 Cardiovascular disease: potential impact of stem cell therapy .
  ... acute myocardial infarction or limb ischemia to determine the initial
effectiveness and safety of this treatment approach. These studies
demonstrated the potential clinical effectiveness of this stem cell
approach to the treatment of patients with acute myocardial ischemia and
limb ischemia. Today, more preclinical studies are planned to elucidate the
mechanism by which transplanted stem cells can home and differentiate
into these endothelial cells and cardiac muscle cells. At the same time,
new clinical trials...

... ischemia with CD34+ and CD133+ stem cells, as well as with further
selected EPCs and mesenchymal stem cells.


  9/3,K/12     (Item 12 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
(c) format only 2007 Dialog. All rts. reserv.

14657044   PMID: 14713729
 Stem cells for the heart, are we there yet?
  Timmermans F; De Sutter J; Gillebert T C
  Department of Cardiovascular Diseases, Ghent University, Ghent, Belgium.
timmermansfrank1973@hotmail.com
  Cardiology (Switzerland)     2003,  100   (4)  p176-85,  ISSN 0008-6312--
Print  Journal Code: 1266406
  Publishing Model Print
  Document type: Journal Article; Review
  Languages: ENGLISH
  Main Citation Owner: NLM
```

Record type: MEDLINE; Completed

Although several repair mechanisms have been described in the human heart, all fall too short to prevent clinical heart disease in most acute or chronic...

...failure, because there is growing body of evidence that bone marrow stem cells, such as mesenchymal stem cells, can generate new cardiomyocytes in animals and humans. In this review, we will discuss important issues on stem cell therapy for cardiac regeneration after myocardial infarction, which might be of paramount importance when considering future human trials. Copyright 2003 S. Karger AG, Basel

Descriptors: *Bone Marrow Transplantation; *Mesenchymal Stem Cell Transplantation; *Myocardial Infarction-- therapy --TH...; PA; Cell Differentiation--physiology--PH; Cell Fusion; Heart Failure, Congestive --pathology--PA; Heart Failure, Congestive-- therapy --TH; Humans; Mesenchymal Stem Cells--pathology--PA; Myocardial Contraction--physiology --PH; Myocardial Infarction--pathology--PA...

9/3,K/13 (Item 13 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

14475087 PMID: 12946320

Treatment of myocardial ischemia with bone marrow-derived mesenchymal stem cells overexpressing hepatocyte growth factor.

Duan Hai-Feng; Wu Chu-Tse; Wu Dan-Li; Lu Ying; Liu Hong-Jun; Ha Xiao-Qin; Zhang Qun-Wei; Wang Hua; Jia Xiang-Xu; Wang Li-Sheng

Department of Experimental Hematology, Beijing Institute of Radiation Medicine, 27 Taiping Road, 100850, Beijing, People's Republic of China.

Molecular therapy - the journal of the American Society of Gene Therapy (United States) Sep 2003, 8 (3) p467-74, ISSN 1525-0016--Print

Journal Code: 100890581

Publishing Model Print

Document type: Journal Article; Research Support, Non-U.S. Gov't

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Treatment of myocardial ischemia with bone marrow-derived mesenchymal stem cells overexpressing hepatocyte growth factor.

Mesenchymal stem cells could differentiate into cardiomyocytes in vitro and have been shown to reconstitute the impaired myocardium in vivo. Hepatocyte growth factor, a recognized angiogenic factor and endothelial cell chemoattractant, has been applied in the treatment of myocardial ischemia. In this study, we used a ligation model of proximal left anterior descending coronary artery of rats to evaluate the effect of mesenchymal stem cells overexpressing hepatocyte growth factor in the treatment of myocardial ischemia. Bone marrow-derived mesenchymal stem cells were isolated, expanded, characterized, and infected with adenovirus carrying human hepatocyte growth factor cDNA (Ad-HGF). Mesenchymal stem cells infected by Ad-HGF released soluble HGF protein at a high level, which was maintained at least for 2 weeks. Implantation of mesenchymal stem cells overexpressing hepatocyte growth factor into left anterior descending risk areas improved the functions of...

...a marker, we also demonstrated that the engrafted cells or their progeny incorporated into ischemic cardiac muscle. These results showed that treatment of myocardial ischemia with bone marrow-derived mesenchymal

stem cells overexpressing hepatocyte growth factor could be a novel strategy that can both restore local blood flow and regenerate lost cardiomyocytes .
Descriptors: *Gene Therapy ; *Hepatocyte Growth Factor--genetics--GE; *Myocardial Ischemia-- therapy --TH; *Stem Cell Transplantation; *Stem Cells--metabolism--ME

9/3,K/14 (Item 14 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

14461717 PMID: 12931236
Use of adult marrow mesenchymal stem cells for regeneration of cardiomyocytes.
Fukuda K
Institute for Advanced Cardiac Therapeutics, Keio University School of Medicine, Shinanomachi, Shinjuku-ku, Tokyo, Japan.
Bone marrow transplantation (England) Aug 2003, 32 Suppl 1 pS25-7, ISSN 0268-3369--Print Journal Code: 8702459
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

Use of adult marrow mesenchymal stem cells for regeneration of cardiomyocytes .
... cardiomyogenic (CMG) cell line from mouse bone marrow stromal cells that can be induced to differentiate into cardiomyocytes in vitro by 5-azacytidine treatment . A number of lines of evidence confirm the cardiomyocyte characteristics of CMG cells.

9/3,K/15 (Item 15 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

14419792 PMID: 12878947
Cardiomyocyte-mediated contact programs human mesenchymal stem cells to express cardiogenic phenotype.
Rangappa Sunil; Entwistle John W C; Wechsler Andrew S; Kresh J Yasha
Department of Cardiovascular Medicine and Surgery, Drexel University College of Medicine, Philadelphia, PA 19102, USA.
Journal of thoracic and cardiovascular surgery (United States) Jul 2003, 126 (1) p124-32, ISSN 0022-5223--Print Journal Code: 0376343
Publishing Model Print
Document type: Comparative Study; Journal Article; Research Support, Non-U.S. Gov't; Research Support, U.S. Gov't, Non-P.H.S.
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

Cardiomyocyte-mediated contact programs human mesenchymal stem cells to express cardiogenic phenotype.
... the progression of stem cells into differentiated cells. We hypothesized that intercellular interaction between adult human mesenchymal stem cells and adult human cardiomyocytes would induce stem cells to acquire the phenotypical characteristics of cardiomyocytes , and we tested the role that direct cell-to-cell contact plays in directing

this differentiation process. Human mesenchymal stem cells were cultured in the presence of human cardiomyocytes ("coculture") or in the presence of media conditioned by separate cultures of human cardiomyocytes ("conditioned media"). METHODS: Human cardiomyocytes were labeled with chloromethyl derivatives of fluorescein diacetate. In the coculture experiments, human mesenchymal stem cells and human cardiomyocytes were mixed at a 1:1 ratio in smooth muscle 2 media and seeded at...

... C for 48 hours. Subsequently, fluorescence-activated cell sorting was used to extract the differentiating human mesenchymal stem cells. In the conditioned media experiments, human mesenchymal stem cells were incubated in media previously conditioned by cardiomyocytes , in the presence and absence of serum (+/-serum). The conditioned media was changed 3 times...

... isolated and reverse transcriptase-polymerase chain reaction was performed for expression of contractile proteins and cardiac specific genes. Immunostaining against myosin heavy chain, beta-actin troponin-T, and troponin-I was performed. RESULTS: Fluorescence-activated cell sorting analysis identified 66% of the human mesenchymal stem cells in the G1 phase. Differentiated hMSCs from the coculture experiments expressed myosin heavy chain...

... heavy chain and troponin-T. In contrast, only beta-actin expression was observed in the human mesenchymal stem cells incubated with conditioned media +/- serum. CONCLUSION: In addition to soluble signaling molecules, direct cell...

... relaying the external cues of the microenvironment controlling the differentiation of adult stem cells to cardiomyocytes . These data indicate that human mesenchymal stem cells are plastic and can be reprogrammed into a cardiomyogenic lineage that may be used in cell-based therapy for treating heart failure.

9/3,K/16 (Item 16 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

14419419 PMID: 12878834
Myocardial neovascularization by adult bone marrow-derived angioblasts: strategies for improvement of cardiomyocyte function.
Itescu Silviu; Kocher Alfred A; Schuster Michael D
Departments of Medicine and Surgery, Columbia University, New York, NY 10032, USA. si5@columbia.edu
Heart failure reviews (United States) Jul 2003, 8 (3) p253-8, ISSN 1382-4147--Print Journal Code: 9612481
Publishing Model Print
Document type: Journal Article; Review
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

In the pre-natal period, hemangioblasts derived from the human ventral aorta give rise to cellular elements involved in both hematopoiesis and vasculogenesis, resulting in...

... network. Endothelial precursors with phenotypic and functional characteristics of embryonic hemangioblasts are also present in human

adult bone marrow, and can be used to induce infarct bed vasculogenesis and angiogenesis after...

... deposition, and sustained improvement in cardiac function. Autologous angioblasts may also be useful in cellular therapy strategies aiming to regenerate myocardial tissue after established heart failure. It is likely that protocols using cardiomyocyte/ mesenchymal stem cells will require balanced co-administration of angioblasts to provide vascular structures for supply of oxygen and nutrients to both the chronically ischemic, endogenous myocardium and to the newly-implanted cardiomyocytes . Future studies will need to address the timing, relative concentrations, source and route of delivery...
; Animals; Heart Failure, Congestive--epidemiology--EP; Heart Failure, Congestive--physiopathology--PP; Heart Failure, Congestive-- therapy --TH; Humans; Incidence; Myocardial Infarction--epidemiology--EP; Myocardial Infarction--physiopathology--PP; Myocardial Infarction-- therapy --TH; Myocytes, Cardiac--physiology--PH; Myocytes, Cardiac--transplantation--TR; United States--epidemiology--EP

9/3,K/17 (Item 17 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

14321374 PMID: 12698252
New directions in strategies using cell therapy for heart disease.
Itescu Silviu; Schuster Michael D; Kocher Alfred A
Transplantation Immunology, Columbia-Presbyterian Medical Center, 630 West 168th Street, PH 14 Central, New York, NY 10032, USA. si5@columbia.edu
Journal of molecular medicine (Berlin, Germany) (Germany) May 2003, 81 (5) p288-96, ISSN 0946-2716--Print Journal Code: 9504370
Publishing Model Print-Electronic
Document type: Journal Article; Review
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

New directions in strategies using cell therapy for heart disease.
... undergo cellular hypertrophy, nuclear ploidy, and a high degree of apoptosis. A small number of human cardiomyocytes retain the capacity to proliferate and regenerate in response to ischemic injury. However, whether ...

... donor-derived or allogeneic cells such as fetal or embryonic cardiomyocyte precursors, bone marrow derived mesenchymal stem cells, or skeletal myoblasts. The newly formed cardiomyocytes must integrate precisely into the existing myocardial wall in order to augment synchronized contractility and...

... is required to ensure viability of the repaired region and prevent further scar tissue formation. Human adult bone marrow contains endothelial precursors which resemble embryonic angioblasts and can be used to induce infarct bed neovascularization after experimental myocardial infarction. This results in protection of cardiomyocytes against apoptosis, induction of cardiomyocyte proliferation and regeneration, long-term salvage and survival of viable myocardium, prevention of left ventricular remodeling, and sustained improvement in cardiac function. It is reasonable to anticipate that cell therapy strategies for ischemic heart disease will need to incorporate (a) a renewable source of proliferating, functional cardiomyocytes , and (b) angioblasts to generate

a network of capillaries and larger size blood vessels for...

... oxygen and nutrients to both the chronically ischemic endogenous myocardium and to the newly implanted cardiomyocytes
Descriptors: *Cell Transplantation--methods--MT; *Heart Diseases--therapy --TH...; Death; Cell Survival; Heart Diseases--pathology--PA; Heart Failure, Congestive--etiology--ET; Heart Failure, Congestive--therapy --TH; Hematopoietic Stem Cell Transplantation; Humans; Myoblasts, Skeletal--transplantation--TR; Myocardial Infarction--complications--CO; Myocardial Ischemia-- therapy --TH; Myocytes, Cardiac--transplantation--TR; Neovascularization, Physiologic; Ventricular Remodeling--physiology--PH

9/3,K/18 (Item 18 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

14229205 PMID: 12645692
Transformation of adult mesenchymal stem cells isolated from the fatty tissue into cardiomyocytes.
Rangappa Sunil; Fen Chen; Lee Eng Hin; Bongso Ariff; Sim Eugene Kwang Wei
Division of Cardiothoracic Surgery, National University Hospital, National University of Singapore, Singapore. sunil ran@hotmail.com
Annals of thoracic surgery (United States) Mar 2003, 75 (3) p775-9, ISSN 0003-4975--Print Journal Code: 15030100R
Publishing Model Print; Erratum in Ann Thorac Surg. 2004 May;77(5) 1880; Erratum in Note Wei, Eugene Sim Kwang [corrected to Sim, Eugene Kwang Wei]
Document type: Journal Article; Research Support, Non-U.S. Gov't
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

Transformation of adult mesenchymal stem cells isolated from the fatty tissue into cardiomyocytes .
... because they are terminally differentiated. Mesenchymal cells are pluripotent cells, which have the potential to differentiate to specialized tissues under appropriate stimuli. The aim of this study was to direct differentiation of the adult mesenchymal stem cells isolated from fatty tissue into cardiomyocytes using 5-azacytidine. METHODS: Adult mesenchymal stem cells were isolated from the fatty tissue of New Zealand White rabbits and cultured in...

... subjected to immunostaining for the myosin heavy chain, alpha actinin, and troponin-I. RESULTS: After treatment with 5-azacytidine, the adult mesenchymal stem cells were transformed into cardiomyocytes . At 1 week, some cells showed binucleation and extended cytoplasmic processes with adjacent cells. At...

... The differentiated cells maintained the phenotype and did not dedifferentiate up to 2 months after treatment with 5-azacytidine. CONCLUSIONS: These observations confirm that adult mesenchymal stem cells isolated from fatty tissue can be chemically transformed into cardiomyocytes . This can potentially be a source of autologous cells for myocardial repair.

9/3,K/19 (Item 19 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

14137092 PMID: 15758422
Adult mesenchymal stem cells: potential for muscle and tendon regeneration and use in gene therapy.
Pittenger M; Vanguri P; Simonetti D; Young R
Osiris Therapeutics, Inc., Baltimore, Maryland 21231, USA. mpittenger@osiristx.com
Journal of musculoskeletal & neuronal interactions (Greece) Jun 2002, 2 (4) p309-20, ISSN 1108-7161--Print Journal Code: 101084496
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: PubMed not MEDLINE

Adult mesenchymal stem cells: potential for muscle and tendon regeneration and use in gene therapy .
... to adult stem cell research and in particular, in the arena of mesenchymal stem cell (MSC) research. Research demonstrates that transduced MSCs injected into skeletal muscle can persist and express secreted gene products. The ability of the MSC to differentiate into cardiomyocytes has been reported and their ability to engraft and modify the pathology in infarcted animal...

9/3,K/20 (Item 20 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
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13838472 PMID: 12115863
Cardiac stem cells.
Hughes Sian
St George's Hospital Medical School, London, UK. se.hughes@sghms.ac.uk
Journal of pathology (England) Jul 2002, 197 (4) p468-78, ISSN 0022-3417--Print Journal Code: 0204634
Publishing Model Print
Document type: Journal Article; Review
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

... Historically, a wide range of cell types have been used for CCM, including rat and human fetal ventricular myocytes, but the availability of human fetal donor cells for clinical purposes is limited. The quest for suitable alternative donor cells...

... bone marrow haematopoeitic stem cells and mesenchymal stem cells can repopulate infarcted rodent myocardium and differentiate into both cardiomyocytes and new blood vessels. These data, coupled with the identification of a putative primitive cardiac stem cell population in the adult human heart, may pave the way for novel therapeutic modalities for enhancing myocardial performance and treating end-stage cardiac disease. Copyright 2002 John Wiley & Sons, Ltd.
...; Cell Differentiation; Embryo--cytology--CY; Hematopoietic Stem Cell Transplantation--methods--MT; Humans; Mice; Myocardial Infarction-- therapy --TH

9/3,K/21 (Item 21 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
(c) format only 2007 Dialog. All rts. reserv.

13759189 PMID: 12021494
Human mesenchymal stem cells: insights from a surrogate in vivo assay system.
MacKenzie Tippi C; Flake Alan W
The Children's Institute for Surgical Science, The Children's Hospital of Philadelphia, Pa. 19104, USA.
Cells, tissues, organs (Switzerland) 2002, 171 (1) p90-5, ISSN 1422-6405--Print Journal Code: 100883360
Publishing Model Print
Document type: Journal Article; Review
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

Human mesenchymal stem cells: insights from a surrogate in vivo assay system.
Mesenchymal stem cells (MSC) are multipotent cells that have been isolated from the bone marrow of multiple species that can be induced to differentiate into at least bone, cartilage, and adipose tissue in vitro. Using a model of in utero cellular transplantation in which human MSC are transplanted into fetal lambs, we have shown that MSC can engraft in multiple tissues and persist for over one year. Furthermore, these cells can differentiate into cardiac and skeletal myocytes, bone marrow stromal cells, adipocytes, thymic epithelial cells, and chondrocytes. These observations lend support to the potential utility of MSC for cellular and/or gene therapy in the treatment of a variety of congenital or acquired diseases such as osteogenesis imperfecta, muscular dystrophy, lysosomal...
; Animals; Biological Assay; Cell Differentiation--physiology--PH; Cell Transplantation--methods--MT; Chimera--genetics--GE; Gene Therapy ; Humans ; Immunohistochemistry; Mesoderm--physiology--PH; Multipotent Stem Cells --physiology--PH

9/3,K/22 (Item 22 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

13742432 PMID: 11998164
[Mesenchymal stem cells. Basic science and future clinical use]
Mesenkymala stamceller. Basal vetenskap och framtida kliniska anvandningsomraden.
Le Blanc Katarina
Hematologiska kliniken, Huddinge Universitetssjukhus..Katarina.Leblanc@medhs.ki.se
Lakartidningen (Sweden) Mar 21 2002, 99 (12) p1318-21, 1324, ISSN 0023-7205--Print Journal Code: 0027707
Publishing Model Print
Document type: English Abstract; Journal Article; Review
Languages: SWEDISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

... The cells can be ex vivo expanded to large numbers and retain the ability of differentiate to cardiac , bone, adipocytes and muscle cells in vitro and in vivo. Undifferentiated mesenchymal stem cells produce large numbers of growth factors that control hematopoiesis and modulate lymphocyte function. Mesenchymal stem cells are well tolerated when transplanted to humans and animals. After transplantation, the

differentiation appears...

... respective tissues. When co-transplanted together with hematopoietic cells in a stem-cell transplantation setting, mesenchymal stem cells appear to enhance engraftment of the hematopoietic cells as well as reduced the incidence...
; Adult; Animals; Bone Diseases-- therapy --TH; Cell Differentiation; Cell Division; Gene Therapy --methods--MT; Gene Therapy --trends--TD; Heart Diseases-- therapy --TH; Hematopoietic Stem Cell Transplantation --methods--MT; Hematopoietic Stem Cell Transplantation--trends--TD; Hematopoietic Stem Cells--immunology--IM; Humans; Metabolic Diseases-- therapy --TH; Stem Cells--immunology--IM; Transplantation, Autologous; Transplantation, Homologous

9/3,K/23 (Item 23 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

12927907 PMID: 11062543
Human mesenchymal stem cells engraft and demonstrate site-specific differentiation after in utero transplantation in sheep.
Liechty K W; MacKenzie T C; Shaaban A F; Radu A; Moseley A M; Deans R; Marshak D R; Flake A W
The Children's Institute for Surgical Science, The Children's Hospital of Philadelphia, 34th and Civic Center Boulevard, Philadelphia, Pennsylvania 19104-4399, USA.
Nature medicine (UNITED STATES) Nov 2000, 6 (11) p1282-6, ISSN 1078-8956--Print Journal Code: 9502015
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

Human mesenchymal stem cells engraft and demonstrate site-specific differentiation after in utero transplantation in sheep.
... isolated from adult bone marrow and can be induced in vitro and in vivo to differentiate into a variety of mesenchymal tissues, including bone, cartilage, tendon, fat, bone marrow stroma, and muscle. Despite their potential clinical utility for cellular and gene therapy , the fate of mesenchymal stem cells after systemic administration is mostly unknown. To address this, we transplanted a well-characterized human mesenchymal stem cell population into fetal sheep early in gestation, before and after the expected development of immunologic competence. In this xenogeneic system, human mesenchymal stem cells engrafted and persisted in multiple tissues for as long as 13 months after transplantation. Transplanted human cells underwent site-specific differentiation into chondrocytes, adipocytes, myocytes and cardiomyocytes , bone marrow stromal cells and thymic stroma. Unexpectedly, there was long-term engraftment even when cells were transplanted after the expected development of immunocompetence. Thus, mesenchymal stem cells maintain their multipotential capacity after transplantation, and seem to have unique immunologic characteristics that allow persistence in a xenogeneic environment. Our data support the possibility of the transplantability of mesenchymal stem cells and their potential utility in tissue engineering, and cellular and gene therapy applications.

9/3,K/24 (Item 24 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

10845904 PMID: 8632645
A population of cells isolated from rat heart capable of differentiating into several mesodermal phenotypes.
Warejcka D J; Harvey R; Taylor B J; Young H E; Lucas P A
Department of Surgery, Mercer University School of Medicine, Medical Center of Central Georgia, Macon 31208, USA.
Journal of surgical research (UNITED STATES) May 1996, 62 (2) p233-42, ISSN 0022-4804--Print Journal Code: 0376340
Publishing Model Print
Document type: Journal Article; Research Support, Non-U.S. Gov't
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

... stem cells has been isolated from embryonic avian and neonatal rat skeletal muscle. These cells differentiate into several mesodermal phenotypes in culture upon treatment with dexamethasone. This study reports the isolation of a similar population of stem cells from...

... 10(-10) M for 4 weeks. Control cultures contained mononucleated cells with a stellate morphology. Treatment with dexamethasone resulted in the appearance of several mesodermal phenotypes. Bone and cartilage nodules were...

... were tentatively identified as cardiomyocytes. These data strongly suggest the existence of a population of mesenchymal stem cells in neonatal rat heart.

9/3,K/25 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

18620591 BIOSIS NO.: 200510315091
Human myocardin induces a mixed cardiac and smooth muscle phenotype in human mesenchymal stem cells
AUTHOR: van Tuyn John (Reprint); van de Watering Marloes J; Knaan-Shanzer Shoshan; de Vries Antoine A; van der Laarse Arnoud; Schalij Martin; van der Wall Ernst; Atsma Douwek E
AUTHOR ADDRESS: Leiden Univ, Med Ctr, Leiden, Netherlands**Netherlands
JOURNAL: Circulation 110 (17, Suppl. S): p316 OCT 26 2004 2004
CONFERENCE/MEETING: 77th Scientific Meeting of the American-Heart-Association New Orleans, LA, USA November 07 -10, 2004; 20041107
SPONSOR: Amer Heart Assoc
ISSN: 0009-7322
DOCUMENT TYPE: Meeting; Meeting Abstract
RECORD TYPE: Abstract
LANGUAGE: English

Human myocardin induces a mixed cardiac and smooth muscle phenotype in human mesenchymal stem cells

ABSTRACT: Bone marrow-derived stem cells are currently being used in stem cell therapy for post myocardial infarct healing. The efficiency of differentiation into relevant cell types (endothelium and...

...to increase muscle mass) it; currently a limiting factor. We propose to induce differentiation of human mesenchymal stem cells (hMSCs) into cardiomyocytes by transient expression in these cells of tissue-specific transcription factor genes. Recently, myocardin was identified as a promising candidate gene for both smooth and cardiac muscle differentiation. Using a fiber-modified human adenovirus serotype 5 vector expressing the human myocardin gene, we transfected hMSCs isolated from human bone marrow. One week after transduction, the cells were analysed for the expression of cardiac and smooth muscle genes by reverse transcription-polymerase chain reaction (RT-PCR) and immunofluorescence microscopy (IFM). Myocardin specifically induced cardiac myosin heavy chain, atrial natriuretic protein, cardiac troponin T, atrial and ventricular myosin light chain 2, sarcoplasmic reticulum Ca2+-ATPase 2A (SERCA2a) and GATA-binding protein 4 (GATA4) gene expression. No cardiac troponin I transcripts were detected. Instead, slow-twitch skeletal troponin I (ssTnI) was expressed, indicative of an embryonic cardiomyocyte phenotype. We confirmed previous results showing expression of connexin 43 in hMSCS, and found that...
...smooth muscle myosin heavy chain (smMHC) gene expression. IFM revealed that myocardin-transduced hMSCs expressed cardiac actin, alpha-actinin, ssTnI, connexin 43, SERCA2a and smMHC. Double labelling of cardiac actin, alpha-actinin and SERCA2a with smMHC was observed in all cases, suggesting that hMSCs obtained a mixed smooth and cardiac muscle phenotype. Our findings underscore that Myocardin is a potent inducer of both cardiac and smooth muscle genes. Other cellular factors beside Myocardin are likely required for full commitment of hMSCs to either cardiac or smooth muscle cell differentiation.
DESCRIPTORS:
ORGANISMS: human (Hominidae)
GENE NAME: human myocardin gene gene (Hominidae)

9/3,K/26 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

18619320 BIOSIS NO.: 200510313820
Impairment of bone marrow-derived mesenchymal and hematopoietic stem cells in patients with coronary artery disease: A limitation for cell therapy?
AUTHOR: Kissel Christine K (Reprint); Martin Hans; Lehmann Ralf; Spyridopoulos Ioakim; Badorff Cornel
AUTHOR ADDRESS: Univ Frankfurt, D-6000 Frankfurt, Germany**Germany
JOURNAL: Circulation 110 (17, Suppl. S): p50 OCT 26 2004 2004
CONFERENCE/MEETING: 77th Scientific Meeting of the American-Heart-Association New Orleans, LA, USA November 07 -10, 2004; 20041107
SPONSOR: Amer Heart Assoc
ISSN: 0009-7322
DOCUMENT TYPE: Meeting; Meeting Abstract
RECORD TYPE: Abstract
LANGUAGE: English

...mesenchymal and hematopoietic stem cells in patients with coronary artery disease: A limitation for cell therapy ?

ABSTRACT: Cell therapy may provide a novel therapeutic option to improve neovascularization and cardiac regeneration. Bone marrow-derived mesenchymal stem cells (MSC) have been shown to differentiate into cardiomyocytes in vitro and improve cardiac function in vivo.

Likewise, although the potency of hematopoietic stem cells (HSC) to differentiate into cardiac myocytes has recently been questioned, various experimental studies showed an improvement of cardiac function after HSC therapy . Risk factors for coronary artery disease (CAD) or heart failure may limit the number and...

...MesenCult (TM) medium and were stained with crystal violet in order to count the colonies (MSC -CFU). MSC were characterized by morphology and by absence of the HSC marker CD34, the pan-leukocyte...

...and the monocytic marker CD14 using FACS analysis. Overall, patients revealed profoundly reduced numbers of MSC -CFU compared to healthy controls (control: 44.6 +/- 18.8; CAD: 13.6 +/- 3.9; p < 0.05; mean +/- SEM). The reduced number of MSC -CFU did not differ between patients with a recent AMI (12.9 +/- 5) and patients...

...0.05), possibly indicating ongoing mobilization of HSC after AMI. Conclusion: These data indicate that MSC and HSC are critically impaired in patients with CAD suggesting that the functional consequences of...
...to the stem cell reservoir in the bone marrow, which may limit therapeutic efficiency for cardiac regeneration,
DESCRIPTORS:
...MAJOR CONCEPTS: Human Medicine, Medical Sciences
ORGANISMS: human (Hominidae)
METHODS & EQUIPMENT: cell therapy --

9/3,K/27 (Item 3 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

18619301 BIOSIS NO.: 200510313801
Adult human bone marrow-derived mesenchymal stem cells can repair experimental conduction block in cardiomyocyte culture
AUTHOR: Beeres S I M A (Reprint); Halusi S; Beckmann O; Bax W H; von der Valk E J M; von der Laarse A; de Vries T; Wall E; Schalei J; Atsma D
AUTHOR ADDRESS: Leiden Univ, Ctr Med, Leiden, Netherlands**Netherlands
JOURNAL: Circulation 110 (17, Suppl. S): p46 OCT 26 2004 2004
CONFERENCE/MEETING: 77th Scientific Meeting of the American-Heart-Association New Orleans, LA, USA November 07 -10, 2004; 20041107
SPONSOR: Amer Heart Assoc
ISSN: 0009-7322
DOCUMENT TYPE: Meeting; Meeting Abstract
RECORD TYPE: Abstract
LANGUAGE: English

Adult human bone marrow-derived mesenchymal stem cells can repair experimental conduction block in cardiomyocyte culture

ABSTRACT: Introduction Current therapy of reentrant arrhythmias in ischemic heart disease patients is directed at electrical isolation of these...

...improvement of conduction properties of this diseased tissue. Hypothesis We assessed the hypothesis that adult human bone marrow derived mesenchymal stem cells (MSC) can restore experimentally induced conduction block in cardiomyocyte cultures. Methods Cardiomyocytes from neonatal rats were cultured onto multi-electrode (60 electrodes)

mapping arrays (MEA, Multichannel Systems...

...This divided the preparations into 2 asynchronously beating halves. After ensuring conduction block, GFP labeled human MSCs were applied in a channel-crossing pattern. Conduction characteristics between the two halves were studied 24 h after application of MSCs. Results A spontaneously beating monolayer of cardiomyocytes had formed in all preparations after 2 days of culture (panel a). Construction of the...

...halves within 24 h (panel c), Expression of Connexin 43 between the MSCs and the cardiomyocytes supports functional recovery. Conclusions Restoration of conduction block by MSC application is feasible and probably by formation of gap junctions containing Connexin 43. [GRAPHICS]
DESCRIPTORS:
ORGANISMS: human (Hominidae...
...DISEASES: heart disease, therapy

9/3,K/28 (Item 4 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

18576165 BIOSIS NO.: 200510270665
Non-hematopoietic bone marrow cells can be mobilized and differentiate into cardiomyocytes after myocardial infarction: Possible contribution of mesenchymal stem cells
AUTHOR: Kawada Hiroshi (Reprint); Fujita Jun; Kinjo Kentaro; Matsuzaki Yumi ; Tsuma Mitsuyo; Miyatake Hiroko; Muguruma Yukari; Okano Hideyuki; Hotta Tomomitsu; Fukuda Keiichi; Ando Kiyoshi
AUTHOR ADDRESS: Tokai Univ, Sch Med, Div Hematol, Dept Med, Isehara, Kanagawa 25911, Japan**Japan
JOURNAL: Blood 104 (11, Part 1): p736A NOV 16 2004 2004
CONFERENCE/MEETING: 46th Annual Meeting of the American-Society-of-Hematology San Diego, CA, USA December 04 -07, 2004; 20041204
SPONSOR: Amer Soc Hematol
ISSN: 0006-4971
DOCUMENT TYPE: Meeting; Meeting Poster
RECORD TYPE: Abstract
LANGUAGE: English

Non-hematopoietic bone marrow cells can be mobilized and differentiate into cardiomyocytes after myocardial infarction: Possible contribution of mesenchymal stem cells

...ABSTRACT: stem cells with the ability to regenerate myocardial tissue are hematopoietic stem cells (HSC) and mesenchymal stem cells (MSC). The aim ofthis study was to determine the precise origin of the BM cells mobilized...

...Here, we used two independent clonal studies; we transplanted genetically marked single HSC or clonal MSC into lethally-irradiated recipient mice, induced MI, treated the mice with G-CSF, and analyzed the cardiac tissues. First, we transplanted single CD34(-)c-kit(+)Sca-1(+)lineage(-) side population (CD34(-)KSL...

...the major population of cells mobilized from the BM and active in the regeneration of cardiomyocytes was non-hematopoietic in origin. Next, clonally purified mesenchymal stem cells, CMG cells, transfected with a pMLC2v-EGFP plasmid encoding EGFP driven by the myosin...

...observed in the ischemic myocardium, indicating that CMG cells had been mobilized and differentiated into cardiomyocytes . Together, these results suggested that the vast majority of BM-derived cardiomyocytes are of mesenchymal origin.
DESCRIPTORS:
...DISEASES: heart disease, vascular disease, therapy

9/3,K/29 (Item 5 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

18575805 BIOSIS NO.: 200510270305
Culture conditions for generating human bone marrow stromal cells influence cell immunophenotype and in vivo biodistribution in immune deficient mice.
AUTHOR: Vergidis Joanna (Reprint); Suck Garnet; Wang Xing-Hua; Zandstra Peter W; Keating Armand
AUTHOR ADDRESS: Univ Toronto, Inst Med Sci, Toronto, ON M5S 1A1, Canada** Canada
JOURNAL: Blood 104 (11, Part 1): p642A NOV 16 2004 2004
CONFERENCE/MEETING: 46th Annual Meeting of the American-Society-of-Hematology San Diego, CA, USA December 04 -07, 2004; 20041204
SPONSOR: Amer Soc Hematol
ISSN: 0006-4971
DOCUMENT TYPE: Meeting; Meeting Poster
RECORD TYPE: Abstract
LANGUAGE: English

Culture conditions for generating human bone marrow stromal cells influence cell immunophenotype and in vivo biodistribution in immune deficient mice.

...ABSTRACT: better understanding of factors underlying cell trafficking in vivo is likely to lead to enhanced MSC engraftment and tissue targeting. To address this issue, we studied the immunophenotype and transplantation potential...

...tibial bone marrow, lung, liver. bone, spleen, brain. heart, and blood were analyzed for donor human cell engraftment by PCR and fluorescence in situ hybridization (FISH) against the marine background. Engraftment was determined by PCR with primers from the human alpha-satellite region (chromosome 17) that amplify a specific 850 bp fragment. One tibial bone...

...bone marrow samples, one bone sample, and four lung samples from nine mice receiving LTBMC MSC were positive by PCR. In contrast. all of the same tissues from the mouse receiving SSBC MSC were negative for human donor cells,including the lung, with the intriguing exception of a positive PCR signal inheart tissue. The presence of donor MSC was confirmed in PCR+ specimens by FISH using a human Cy3- and a murine FITC-pan-centromerie probe. The frequenciesof donor LTBMC MSC in the tibial bone marrow, femoral bone marrow, bone, and lung were 0.79%,1...
...0.58%,and 1.99%, respectively. Donor bioreactor-derivedMSCs accounted for 0.41 %of the cardiomyocytes from one recipient, despite the absence of cardiac injury. Compared with LTBMC MSCs, SSBC-derived cells appear to display an unusual biodistribution pattern...

...of culture conditions in influencing the immunophenotype of MSCs and holds promisefor developing targeted cell therapy .
DESCRIPTORS:
ORGANISMS: human (Hominidae...

9/3,K/30 (Item 6 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

18353214 BIOSIS NO.: 200510047714
Mesenchymal stem cell therapy and cardiac function: clinical experience in patients with myocardial infarction?
AUTHOR: Hasenfuss Gerd P (Reprint); Guan Kaomei
AUTHOR ADDRESS: Univ Gottingen, Heart Ctr, Gottingen, Germany**Germany
JOURNAL: Journal of Molecular and Cellular Cardiology 36 (5): p732 MAY 04 2004
CONFERENCE/MEETING: 24th Annual Scientific Sessions of the European-Section of the International-Society-for-Heart-Research Dresden, GERMANY June 02 -06, 2004; 20040602
SPONSOR: Int Soc Heart Res, European Sect
ISSN: 0022-2828
DOCUMENT TYPE: Meeting; Meeting Abstract
RECORD TYPE: Citation
LANGUAGE: English

Mesenchymal stem cell therapy and cardiac function: clinical experience in patients with myocardial infarction?
DESCRIPTORS:
...MAJOR CONCEPTS: Human Medicine, Medical Sciences...
... Human Medicine, Medical Sciences...

... Human Medicine, Medical Sciences
ORGANISMS: human (Hominidae)
METHODS & EQUIPMENT: stem cell therapy --

9/3,K/31 (Item 7 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

18339745 BIOSIS NO.: 200510034245
Experimental studies on rabbit bone marrow mesenchymal stem cells autologous transplantation into dilated cardiomyopathy
AUTHOR: Li Guo-cao (Reprint); Li Geng-shan; Zhang Jing; Li Wen-qiang; Zhou Qing
AUTHOR ADDRESS: Wuhan Univ, Renmin Hosp, Dept Cardiol, Wuhan 430060, Peoples R China**Peoples R China
AUTHOR E-MAIL ADDRESS: lgclgc2003.student@sina.com
JOURNAL: Zhonghua Xinxueguanbing Zazhi 32 (12): p1095-1098 DEC 19 04 2004
ISSN: 0253-3758
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: Chinese

...ABSTRACT: Bone marrow mesenchymal stem cell (MSCs) has been shown to replace infarcted myocardium and improve cardiac performance in acute myocardial infarction. The present study was designed to investigate the effects of autologous MSCs implantation into dilated cardiomyopathy on cardiac function. Methods Forty six rabbits were randomized into four

groups: (1) DCM cell implantation group...
...received intrarryocardial injection of autologous MSCs. The echocardiography and hemodynamic studies were performed to evaluate cardiac function at 28th day after implantation. Histologic sections of the implanted sites were examined under...

...were found in the histologic sections of experiment group and some of them differentiated into cardiomyocytes and vascular endothelial cells. The implanted cells were not found in the other groups. Compared...

...EF, LVSP and dp/dt(max) (all P < 0.05). Pathological examination demonstrated that the cardiac muscular tissue of all DCM groups were harmed. Conclusions MSCs may differentiate into cardiomyocytes and vascular endothelial cells after autologous implantation into DCM and improve impaired cardiac function.
DESCRIPTORS:
...DISEASES: heart disease, drug-induced, therapy

9/3,K/32 (Item 8 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

18240400 BIOSIS NO.: 200500147465
Genes expression of bone marrow stromal cells to myocardial differentiation induced by DMSO
AUTHOR: Shi Jian-hui (Reprint); Hu Xin-ying; Niu Yu-Hong; Ge Jun-Bo
AUTHOR ADDRESS: Zhongshan UnivShanghai Inst Cardiovasc DisLab Ctr, Fudan Univ, Shanghai, 200032, China**China
JOURNAL: Fudan Xuebao (Yixuekexueban) 31 (5): p454-457 September 2004 2004
MEDIUM: print
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: Chinese

ABSTRACT: Purpose To investigate the potential and temporal transcription regulation of human bone marrow stromal cells (hBMSC) being induced to the cardiovascular precursors in vitro with the treatment of dimethyl sulfoxide (DMSO). Methods Human bone marrow was obtained from healthy adults. hBMSC were isolated using Percoll gradient centrifugation method ...

...of the mesenchymal stem cell were assayed by FACS after the 2nd to 8th passage. Cardiomyocyte differentiation was induced by the treatment of 0.8% of DMSO. Three weeks after induction of DMSO, immunofluorescence was used to detect the CD90 and desmin in hBMSC. A series of RT-PCR of cardiomyocyte -specific transcription factors and cardiomyocyte -specific genes were performed on different differentiation days to investigate the temporal regulation of cardiomyogenesis at a transcription level. Results hBMSC showed a fibroblast - like morphology before differentiation. After the treatment of DMSO, the former fibroblast-like cells increased in size and length in one week...

...like structure. The CD90 - positive cells were decreased and desmin-positive cells were increased after treatment of DMSO. RT-PCR assessment showed that the differentiated cells began to express Nkx2.5 and GATA4, two important cardiac transcription factors, from week 1 to week 3 of differentiation. Meanwhile, the cells began to express atrial natriuretic protein and connexin43, the specific cardiac genes, which could last at least 3 weeks. Conclusions These findings show that hBMSC

possesses the differentiation potential of cardiomyocyte . We demonstrated that DMSO showed the power in inducing the cardiomyocyte differentiation in hBMSC. The reagent functioned at the transcription level to promote cardiomyogenesis of hBMSC.
DESCRIPTORS:
ORGANISMS: human (Hominidae...

9/3,K/33 (Item 9 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

18009508 BIOSIS NO.: 200400380297
Treatment of acute myocardial infarction in rabbits with autologous transplantation of bone marrow mesenchymal stem cells
AUTHOR: Jiang Wen (Reprint); Lin Guosheng; Li Gengshan; et al.
AUTHOR ADDRESS: Renmin HospDept Cardiol, Wuhan Univ, Wuhan, 430060, China**China
JOURNAL: Wuhan Daxue Xuebao (Yixue Ban) 25 (3): p314-317 May 2004 2004
MEDIUM: print
ISSN: 1671-8852
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: Chinese

Treatment of acute myocardial infarction in rabbits with autologous transplantation of bone marrow mesenchymal stem cells

ABSTRACT: To investigate the implantation of bone marrow mesenchymal stem cells (MSCs) which differentiate into cardiomyocytes in ischemic myocardium and its effect on heart function. Methods: The left anterodecendant arteries (LAD...
...acute myocardial infarction(AMI). The animals were randomly divided into implantation group and control group. Mesenchymal stem cells were isolated from bone marrow and were culture-expanded. 2 weeks later the MSCs...

...shorter LVESD, LVEDD and higher EF, +/- dp/dt and lower LVEDP. Conclusion: Autologous bone marrow mesenchymal stem cells can be differentiated into cardiomyocytes in vivo to repair infracted myocardium and improve the heart function. Bone marrow MSCs transplantation can be used as a therapy in rabbits with AMI.
DESCRIPTORS:
...DISEASES: heart disease, vascular disease, therapy

9/3,K/34 (Item 10 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

17781774 BIOSIS NO.: 200400148435
Genome-wide screening of genes responsible for the "stemness" and commitment into adipocytes or myocytes of mesenchymal stem cells.
AUTHOR: Miyazato Akira (Reprint); Mano Hiroyuki; Ozawa Keiya (Reprint)
AUTHOR ADDRESS: Division of Hematology, Deparment of Medicine, Jichi Medical School, Minamikawachi-machi, Kawachi-gun, Tochigi, Japan**Japan
JOURNAL: Blood 102 (11): p838a November 16, 2003 2003
MEDIUM: print
CONFERENCE/MEETING: 45th Annual Meeting of the American Society of Hematology San Diego, CA, USA December 06-09, 2003; 20031206

SPONSOR: American Society of Hematology
ISSN: 0006-4971
DOCUMENT TYPE: Meeting; Meeting Poster; Meeting Abstract
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Recent studies have demonstrated that mesenchymal stem cells derived from bone marrow can differentiate into several cell types such as adipocytes, chodrocytes, osteocytes, and myocytes. Although many attempts for...
...10T1/2). Two cell line, preadipocyte (A54) and myoblast (M1601) cell lines were established by treatment with 5-azacytidine. A54 cells and M1601 cells can terminally differentiate into adipocytes and myotubes, respectively, under appropriate conditions while parent 10T1/2 cells hold immature...

...skeletal actin, myosin heavy chain and myosin light chain as well as genes related to cardiac muscle such as alpha- cardiac actin, cardiac troponin C and troponin T, and M1601 is also difficult to be morphologically distinguished form...

...differentiation. These results implicate that M1601 cell has the plasticity as commom myocyte and can differentiate into both skeletal and cardiac muscle. Meanwhile, relatively immature, parent 10T1/2 cells overexpressed 105 genes including Active, Dlk, Nov...

...parent 10T1/2T cells compared to others may have important role to control multipotency of mesenchymal stem cell and these genes may be useful to unravel the keys to keep "sternness" of mesenchymal stem cells.

9/3,K/35 (Item 11 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

17766381 BIOSIS NO.: 200400133735
Do hematopoietic stem cells turn into mesenchymal stem cells? The bone marrow experience.
AUTHOR: Rieger Kathrin (Reprint); Koerper Sixten (Reprint); Fietz Thomas (Reprint); Sommer Dagmar (Reprint); Muecke Carola (Reprint); Blau Iwan-Wolfgang (Reprint); Marinets Olga (Reprint); Thiel Eckhard (Reprint); Knauf Wolfgang Ulrich (Reprint)
AUTHOR ADDRESS: Hematology, Oncology and Transfusion Medicine, Klinikum Benjamin Franklin, Berlin, Germany**Germany
JOURNAL: Blood 102 (11): p340a November 16, 2003 2003
MEDIUM: print
CONFERENCE/MEETING: 45th Annual Meeting of the American Society of Hematology San Diego, CA, USA December 06-09, 2003; 20031206
SPONSOR: American Society of Hematology
ISSN: 0006-4971
DOCUMENT TYPE: Meeting; Meeting Poster; Meeting Abstract
RECORD TYPE: Abstract
LANGUAGE: English

...ABSTRACT: been previously reported, that not only embryonic but also hematopoetic (HSC) and mesenchymal stem cells (MSC) have the capability to differentiate into various cell types. In animal models, differentiation of HSC into cardiac - and skleletal muscle, vascular endothelium, neuronal cells, hepatocytes and cholangiocytes, has been

described. In human bone marrow transplant (BMT) recipients, engrafted donor derived cells were detected in various tissues like the liver, dermal epithelium and gastrointestinal epithelium. In order to investigate whether HSC may differentiate also into MSC , we assessed chimerism of peripheral blood, mononuclear cell fractions (MNC) of bone marrow, native bone marrow aspirates and MSC derived from bone marrow using fluorescence in situ hybridization (FISH) by using X/Y gene probes. MSC were characterized by flow cytometry analysis. Bone marrow aspirates and peripheral blood samples were obtained...

...had chimerism in peripheral blood and MNC of the bone marrow. In all but one patient bone marrow derived MSC were of recipient origin. However, there was one patient who showed MSC of donor origin in a frequency of 1% after having received CD34-selected peripheral stem cell transplantation 5 years ago. Our results indicate, that despite HSC have been found to differentiate into a variety of nonhematological cell types, differentiation into mesenchymal stem cells - if it takes place at all - seems to be a very rare event. The question remains whether differentiation of HSC into nonhematological cell types including MSC may occur during repair of tissue damage in the course of GvHD.
DESCRIPTORS:
...MAJOR CONCEPTS: Human Medicine, Medical Sciences
ORGANISMS: human (Hominidae...

... patient

9/3,K/36 (Item 12 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

17561011 BIOSIS NO.: 200300516374
Regeneration of cardiomyocytes from bone marrow: Use of mesenchymal stem cell for cardiovascular tissue engineering.
AUTHOR: Fukuda Keiichi (Reprint)
AUTHOR ADDRESS: Institute for Advanced Cardiac Therapeutics, Keio University School of Medicine, Shinanomachi, Shinjuku-ku, Tokyo, Japan** Japan
AUTHOR E-MAIL ADDRESS: kfukuda@sc.itc.keio.ac.jp
JOURNAL: Cytotechnology 41 (2-3): p165-175 2003 2003
MEDIUM: print
ISSN: 0920-9069 _(ISSN print)
DOCUMENT TYPE: Article; Literature Review
RECORD TYPE: Abstract
LANGUAGE: English

Regeneration of cardiomyocytes from bone marrow: Use of mesenchymal stem cell for cardiovascular tissue engineering.

...ABSTRACT: began spontaneous beating after 2 weeks, and expressed ANP and BNP. Electron microscopy revealed a cardiomyocyte -like ultrastructure. These cells had several types of action potentials; sinus node-like and ventricular...

...isoform of contractile protein genes indicated that their muscle phenotype was similar to fetal ventricular cardiomyocytes . They expressed alpha1A, alpha1B, alpha1D, beta1, and beta2 adrenergic and M1 and M2 muscarinic receptors...

...rate, which was blocked with CGP20712A (beta1-selective blocker). These

findings indicated that cell transplantation therapy for the patients with heart failure might possibly be achieved using the regenerated cardiomyocytes from autologous bone marrow cells in the near future.
DESCRIPTORS:
ORGANISMS: human (Hominidae...
...DISEASES: heart disease, therapy

9/3,K/37 (Item 13 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

17092031 BIOSIS NO.: 200300049380
Cardiac differentiation of mesenchymal stem cells in sex mis-matched transplanted hearts: Self-repair or just a visit?
AUTHOR: Sauer Heinrich (Reprint); Hescheler Juergen; Wartenberg Maria
AUTHOR ADDRESS: Department of Neurophysiology, University of Cologne, Robert-Koch-Str. 39, D-50931, Cologne, Germany**Germany
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JOURNAL: Cardiovascular Research 56 (3): p357-358 December 2002 2002
MEDIUM: print
ISSN: 0008-6363
DOCUMENT TYPE: Article
RECORD TYPE: Citation
LANGUAGE: English

Cardiac differentiation of mesenchymal stem cells in sex mis-matched transplanted hearts: Self-repair or just a visit?
DESCRIPTORS:
...MAJOR CONCEPTS: Human Medicine, Medical Sciences
ORGANISMS: human (Hominidae...

...female, male, organ donor, patient , organ recipient

9/3,K/38 (Item 14 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

16605474 BIOSIS NO.: 200200198985
In vitro generation of muscle cells from adult human bone marrow
AUTHOR: Bossolasco Patrizia (Reprint); Soligo Davide; Comi Giacomo; Corti Stefania; Strazzer Sandra; Quirici Nadia (Reprint); Deliliers Giorgio Lambertenghi
AUTHOR ADDRESS: Fondazione Matarelli; Ospedale Fatebenefratelli e Oftalmico, Milan, Italy**Italy
JOURNAL: Blood 98 (11 Part 1): p546a November 16, 2001 2001
MEDIUM: print
CONFERENCE/MEETING: 43rd Annual Meeting of the American Society of Hematology, Part 1 Orlando, Florida, USA December 07-11, 2001; 20011207
SPONSOR: American Society of Hematology
ISSN: 0006-4971
DOCUMENT TYPE: Meeting; Meeting Abstract; Meeting Poster
RECORD TYPE: Abstract
LANGUAGE: English

In vitro generation of muscle cells from adult human bone marrow

ABSTRACT: Generation of myotubes or cardiomyocytes from bone marrow mesenchymal stem cells (MSCs) using 5-azacytidine or Amphotericin B

has been reported by different investigators (Wakitani...

...myogenic conversion is usually low. We now report the generation of muscle cells from unfractioned human bone marrow (BM) in culture. In particular, BM cells obtained from ribs resected at the...

...was obtained using whole BM. These data indicate that a subset of cells that can differentiate into myotubes regardless of experimentally induced myogenic conversion already exists in the adult mouse and human BM. Although the cells with myogenic conversion potential need to be further characterised, they are...
DESCRIPTORS:
ORGANISMS: human (Hominidae...

...adult, patient ;

9/3,K/39 (Item 15 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

16589443 BIOSIS NO.: 200200182954
Differentiation of atrial rhythms from the electrocardiogram with coherence spectra
AUTHOR: Sarraf Lara S; Roth James A; Ropella Kristina M (Reprint)
AUTHOR ADDRESS: Department of Biomedical Engineering, Marquette University, Milwaukee, WI, 53201-1881, USA**USA
JOURNAL: Journal of Electrocardiology 35 (1): p59-67 January, 2002 2002
MEDIUM: print
ISSN: 0022-0736
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

...ABSTRACT: atrial fibrillation from sinus rhythm and other more regular atrial arrhythmias. Previously, magnitude-squared coherence (MSC), a frequency domain measure of the linear phase relation between 2 signals, has been shown to be a reliable discriminator of fibrillatory and nonfibrillatory cardiac rhythms when applied to intracardiac electrograms. This study determines whether MSC , when applied to the surface electrocardiogram, would discriminate between atrial fibrillation and nonfibrillatory atrial rhythms. MSC was analyzed by using 2 surface leads of a 10-second ECG. For 68 ECG recordings (23 sinus rhythm, 22 atrial flutter, and 23 atrial fibrillation), MSC was computed between leads II and V1 and the mean MSC in several frequency bands was examined. The performance of MSC was compared to previously published measures of ventricular irregularity and percent power in discriminating atrial...

...rhythms exhibited relatively moderate to high levels of coherence in the same frequency band. Mean MSC in the 2 to 9 Hz band was significantly lower for atrial fibrillation (range, 0...

...atrial flutter (range, 0.06 to 0.80; 0.44 +- 0.21) (P < .0005). Mean MSC in the 2 to 9 Hz band showed less overlap between atrial fibrillation and atrial...

...However, R-R variability showed less overlap between atrial fibrillation and sinus rhythm than mean MSC and percent power. Thus, MSC and RRV both discriminate atrial fibrillation from more organized atrial rhythms.

Conversely, percent power was highly variable for both atrial fibrillation and organized atrial rhythms. Results suggest that MSC applied to surface ECG may be used to quantify rhythm organization.
DESCRIPTORS:
...MAJOR CONCEPTS: Human Medicine, Medical Sciences
ORGANISMS: human (Hominidae...

... patient

9/3,K/40 (Item 16 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

16559554 BIOSIS NO.: 200200153065
Mesenchymal stem cells in patients with chronic myeloid leukemia do not harbor bcr-abl translocation t(9;22)
AUTHOR: Brendel Cornelia (Reprint); Rieder Harald (Reprint); Jaenike Manuela (Reprint); Boudriot Ulrich (Reprint); Burchert Andreas (Reprint); Reckzeh Barbara (Reprint); Neubauer Andreas (Reprint)
AUTHOR ADDRESS: Hematology, Oncology, Immunology, Philipps-University Marburg, Marburg, Germany**Germany
JOURNAL: Blood 98 (11 Part 1): p145a November 16, 2001 2001
MEDIUM: print
CONFERENCE/MEETING: 43rd Annual Meeting of the American Society of Hematology, Part 1 Orlando, Florida, USA December 07-11, 2001; 20011207
SPONSOR: American Society of Hematology
ISSN: 0006-4971
DOCUMENT TYPE: Meeting; Meeting Abstract; Meeting Poster
RECORD TYPE: Abstract
LANGUAGE: English

...ABSTRACT: marrow grafts free of leukemic contamination can be engineered from those tissues. Mesenchymal stem cells (MSC) are multipotent cells that can be isolated from adult bone marrow. They have the ability to differentiate into bone, cartilage, adipocytes, fibroblasts, skeletal and cardiac muscle cells, spleen cells, thymic stromal cells and eventually astrocytes and neurons. Therefore we investigated whether MSC obtained from patients with CML harbor the translocation t(9;22). Culturing plastic adherent cells...

...stages of disease, we found that these cells carry the characteristic antigen pattern described for MSC and, upon fluorescent-in-situ hybridization (FISH) analysis, did not harbor the leukemia specific translocation...

...by quantitative PCR analysis. In order to verify that the cultured fibroblastic cells were true MSC we further differentiated these cells into the osteocytic lineage. It has been shown by other groups that adult mesenchymal stem cells retain the ability to differentiate into muscular and neural tissue. Since adult muscle and brain tissue can differentiate into hematopoietic cells, MSC represent a cell population of mesodermal origin that potentially could be driven to differentiate into hematopoietic lineage as well and probably serve as a leukemic free stem cell graft.
DESCRIPTORS:
ORGANISMS: human (Hominidae...
... patient

9/3,K/41 (Item 1 from file: 73)
DIALOG(R)File 73:EMBASE

12833199 EMBASE No: 2004429267
Effect of intramyocardial injection of basic fibroblast growth factor on autologous transplantation of bone marrow mesenchymal stem cells in rabbits
Jiang W.; Lin G.-S.; Li G.-S.; Xu H.-X.; Qian H.-Y.; Lu J.-J.; Wang J.; Zhou Q.
W. Jiang, Department of Cardiology, People's Hosp. of Wuhan University, Wuhan 430060 Hubei Province China
AUTHOR EMAIL: jwen70@163.com
Chinese Journal of Clinical Rehabilitation (CHIN. J. CLIN. REHAB.) (China) 2004, 8/27 (5821-5823)
CODEN: ZLKHA ISSN: 1671-5926
DOCUMENT TYPE: Journal ; Article
LANGUAGE: CHINESE SUMMARY LANGUAGE: ENGLISH; CHINESE
NUMBER OF REFERENCES: 15

Aim: To investigate the feasibility that bone marrow mesenchymal stem cells (MSCs) differentiate into cardiac myocytes in ischemic myocardium caused by myocardial infarction, and improve cardiac function, and find out the effect of the injection into myocardium with basic fibroblast growth...
...control group. Before and 3 days after myocardial infarction operation and 4 weeks after transplantation, cardiac function was measured by echocardiography. Animals were killed to extract left ventricle for icy slices...

...transplanted groups (P > 0.05). Conclusion: MSCs injected inito Ischemic intramyocardium can be transferred into cardiac myocytes to repair infarct myocytes with the help of tissue microenvironment. It ameliorates cardiac function by improving vascular renascence, and can be applied in the treatment of infarct myocytes; but single direct bFGF injection into the myocardium has no significant effect...
DRUG DESCRIPTORS:
*basic fibroblast growth factor--drug administration--ad; *basic fibroblast growth factor--drug therapy --dt; *basic fibroblast growth factor --pharmacology--pd; *basic fibroblast growth factor--intramuscular drug administration--im
MEDICAL DESCRIPTORS:
*autologous bone marrow transplantation; *heart infarction--drug therapy --dt; *heart infarction--surgery--su

9/3,K/42 (Item 2 from file: 73)
DIALOG(R)File 73:EMBASE

12741479 EMBASE No: 2004336054
Ideal material for the transplantation of cardiovascular disease: Experimental study on differentiation of mesenchymal stem cells in different cardiac myocytes microenvironment in vitro
Zhang W.; Zhang R.-Q.; Jia G.-L.
W. Zhang, Department of Cardiology, Fourth Military Medical University, Xi'an 710032 Shaanxi Province China
Chinese Journal of Clinical Rehabilitation (CHIN. J. CLIN. REHAB.) (China) 2004, 8/9 (1664-1666)
CODEN: ZLKHA ISSN: 1671-5926
DOCUMENT TYPE: Journal ; Article

LANGUAGE: CHINESE SUMMARY LANGUAGE: ENGLISH; CHINESE
NUMBER OF REFERENCES: 13

Ideal material for the transplantation of cardiovascular disease: Experimental study on differentiation of mesenchymal stem cells in different cardiac myocytes microenvironment in vitro

Aim: To study the differentiation of mesenchymal stem cells (MSCs) from rabbit bone marrow in different tomite murine cardiac myocytes microenvironment in vitro, and to establish a new cell source of cell transplantation for...

...After induced by 5-azacytidine, MSCs were co-cultured with normal or damaged tomite murine cardiac myocytes, which had been cultured in adriamycin (ADR), in Millicell culture device (normal group and...

...three groups on the 21st, 28th day. The expressions of alpha-skeletal actin and alpha- cardiac actin could be detected by RT-PCR. But the percent of positive cells in the...

...in the bone marrow, with the capacity of differentiating into multiple mesenchymal lineages. They can differentiate into cardiac myoid cells in normal and pathological cardiac myocyte microenvironment in vitro, and microenvironment can promote the differentiation. MSCs may be a new cell source of cell transplantation in cardiovascular diseases therapy .
MEDICAL DESCRIPTORS:
cardiovascular disease-- therapy --th; mesenchyme cell; hematopoietic stem cell; microenvironment; in vitro study; cell isolation; cell culture; cell ...

9/3,K/43 (Item 3 from file: 73)
DIALOG(R)File 73:EMBASE

12541074 EMBASE No: 2004136223
ICD therapy in heart failure
Fernanda Adornato E.M.; Adornato E.
Dr. E. Adornato, Via Vicenza n. 3, 89100 Reggio Calabria Italy
Mediterranean Journal of Pacing and Electrophysiology (MEDITERR. J. PACING ELECTROPHYSIOL.) (Italy) 2003, 5/4 (199-202)
CODEN: MJPEA ISSN: 1128-4293
DOCUMENT TYPE: Journal ; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 17

ICD therapy in heart failure

...ventricular tachyarrhythmias, remains high. The efficacy of ICD for primary and secondary prevention of sudden cardiac death (SCD) has been well documented by several clinical trials even though they have not...

...and were in functional class II or III with low o very low LVEF (<35%). Cardiac Resynchronization Therapy (CRT) has been documented to significantly improve cardiac performance in patients with severe drug-refractory HF and QRS enlargement (>150 msc). The question remaining is whether to implant a device with pacemaker function only (CRT-P) or to include defibrillation therapy (CRT-ICD). In the COMPANION trial both CRT-P and CRT-ICD with optimal pharmacological therapy demonstrated a statistically significant reduction in the composite endpoints (20%) while

in the total mortality...

...demonstrated a greater reduction (43.4%) compared with CRT-P (24%) and with optimal pharmacological therapy only (19%). This implies that defibrillator therapy conferred additional benefit over CRT alone in the total mortality.
DRUG DESCRIPTORS:
antiarrhythmic agent--clinical trial--ct; antiarrhythmic agent--drug therapy --dt; amiodarone--clinical trial--ct; amiodarone--drug combination --cb; amiodarone--drug therapy --dt; amiodarone--pharmacology--pd; sotalol --clinical trial--ct; sotalol--drug combination--cb; sotalol--drug therapy --dt; sotalol--pharmacology--pd; procainamide--clinical trial--ct; procainamide--drug therapy --dt; procainamide--pharmacology--pd
MEDICAL DESCRIPTORS:
*heart failure--drug therapy --dt; *heart failure-- therapy --th; * defibrillation; *heart arrhythmia--complication--co; *heart arrhythmia --drug therapy --dt; *heart arrhythmia-- therapy --th
...heart performance; QRS complex; ECG abnormality--complication--co; cardiovascular equipment; pacemaker; statistical significance; drug efficacy; human ; clinical trial; article

9/3,K/44 (Item 4 from file: 73)
DIALOG(R)File 73:EMBASE

11809252 EMBASE No: 2002381059
Significant improvement of heart function by cotransplantation of human mesenchymal stem cells and fetal cardiomyocytes in postinfarcted pigs
Min J.-Y.; Sullivan M.F.; Yang Y.; Zhang J.-P.; Converso K.L.; Morgan J.P.; Xiao Y.-F.
Dr. Y.-F. Xiao, Cardiovascular Division, Department of Medicine, Harvard Medical School, 330 Brookline Ave, Boston, MA 02215 United States
AUTHOR EMAIL: yxiao@caregroup.harvard.edu
Annals of Thoracic Surgery (ANN. THORAC. SURG.) (United States) 01 NOV 2002, 74/5 (1568-1575)
CODEN: ATHSA ISSN: 0003-4975
PUBLISHER ITEM IDENTIFIER: S0003497502039528
DOCUMENT TYPE: Journal ; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 32

Significant improvement of heart function by cotransplantation of human mesenchymal stem cells and fetal cardiomyocytes in postinfarcted pigs

...due to their limited capability of regeneration. The present study investigated whether intramyocardial transplantation of human mesenchymal stem cells (hMSCs) or cotransplantation of hMSCs plus human fetal cardiomyocytes (hFCs; 1:1) reconstituted impaired myocardium and improved cardiac function in MI pigs. Methods and Results. Cultured hMSCs were transfected with green fluorescent protein (GFP). Six weeks after MI induction and cell transplantation, cardiac function was significantly improved in MI pigs transplanted with hMSCs alone. However, the improvement was...

...or hMSCs plus hFCs formed GFP-positive engrafts in infarcted myocardium. In addition, immunostaining for cardiac a-myosin heavy chain and troponin I showed positive stains in infarcted regions transplanted with...

...alone or hMSCs plus hFCs. Conclusions. Our data demonstrate that

transplantation of hMSCs alone improved cardiac function in MI pigs with a markedly greater improvement from cotransplantation of hMSCs plus hFCs...
MEDICAL DESCRIPTORS:
*heart function; *stem cell transplantation; *mesenchyme; *heart muscle cell; *heart infarction-- therapy --th

9/3,K/45 (Item 5 from file: 73)
DIALOG(R)File 73:EMBASE

11449727 EMBASE No: 2002021499
Human mesenchymal stem cells differentiate to a cardiomyocyte phenotype in the adult murine heart
Toma C.; Pittenger M.F.; Cahill K.S.; Byrne B.J.; Kessler P.D.
Dr. M.F. Pittenger, Osiris Therapeutics Inc, 2001 Aliceanna St, Baltimore, MD 21231 United States
AUTHOR EMAIL: mpittenger@osiristx.com
Circulation (CIRCULATION) (United States) 01 JAN 2002, 105/1 (93-98)
CODEN: CIRCA ISSN: 0009-7322
DOCUMENT TYPE: Journal ; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 25

Human mesenchymal stem cells differentiate to a cardiomyocyte phenotype in the adult murine heart

...an alternative strategy for augmenting the function of diseased myocardium. We investigated the potential of human mesenchymal stem cells (hMSCs) from adult bone marrow to undergo myogenic differentiation once transplanted into the adult...
...and Results - A small bone marrow aspirate was taken from the iliac crest of healthy human volunteers, and hMSCs were isolated as previously described. The stem cells, labeled with lacZ, were...

...number of cells survived past 1 week and over time morphologically resembled the surrounding host cardiomyocytes . Immunohistochemistry revealed de novo expression of desmin, beta-myosin heavy chain, alpha-actinin, cardiac troponin T, and phospholamban at levels comparable to those of the host cardiomyocytes ; sarcomeric organization of the contractile proteins was observed. In comparison, neither cardiac troponin T nor phospholamban was detected in the myotubes formed in vitro by MyoD-transduced hMSCs. Conclusions - The purified hMSCs from adult bone marrow engrafted in the myocardium appeared to differentiate into cardiomyocytes . The persistence of the engrafted hMSCs and their in situ differentiation in the heart may...
MEDICAL DESCRIPTORS:
*heart failure-- therapy --th; *heart muscle cell; *cardiomyoplasty; *stem cell transplantation
cell differentiation; mesenchyme cell; phenotype; treatment indication; human ; nonhuman; mouse; animal experiment; human cell; animal tissue; animal cell; article; priority journal
SECTION HEADINGS:
009 Surgery
018 Cardiovascular Diseases and Cardiovascular Surgery
022 Human Genetics
?

Set Items Description

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S1          767   (MSC OR (MESENCHYMAL (W) STEM)) (S) (CARDIOMYOCYTE? OR CAR-
                DIAC)
S2           33   S1 AND ((UMBILICAL (W) CORD) OR (CORD (W) BLOOD) OR PLACEN-
                TAL)
S3           17   RD  (unique items)
S4            7   S3 NOT PY>2004
S5          473   S1 AND (PATIENT OR TREATMENT OR THERAPY)
S6          140   S5 NOT PY>2004
S7           80   RD  (unique items)
S8           48   S7 AND (HUMAN OR DIFFERENTIATE OR DIFFERNTIATION)
S9           45   S8 NOT S4
?

COST
      26jul07 16:50:39 User259876 Session D1026.2
            $4.62    1.359 DialUnits File155
               $5.94  27 Type(s) in Format  3
            $5.94  27 Types
    $10.56  Estimated cost File155
            $7.90    1.317 DialUnits File5
              $46.00  20 Type(s) in Format  3
           $46.00  20 Types
    $53.90  Estimated cost File5
           $19.28    1.620 DialUnits File73
              $16.50  5 Type(s) in Format  3
           $16.50  5 Types
    $35.78  Estimated cost File73
            OneSearch, 3 files,  4.297 DialUnits FileOS
     $4.26  INTERNET
   $104.50  Estimated cost this search
   $105.54  Estimated total session cost   4.578 DialUnits
?
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